

# Trapdoor Spiders of the Genus *Misgolas* (Mygalomorphae: Idiopidae) in the Sydney Region, Australia, With Notes on Synonymies Attributed to *M. rapax*

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**ABSTRACT.** This paper reports on the species of the Idiopid trapdoor spider genus *Misgolas* Karsch, 1878 found in the Sydney Region of New South Wales, Australia. They comprise seven new species: *M. lynabra* n.sp., *M. cliffi* n.sp., *M. trangae* n.sp., *M. wayorum* n.sp., *M. rodi* n.sp., *M. beni* n.sp. and *M. michaeli* n.sp.; and four species which are rediagnosed or redescribed here: *Arbanitis gracilis*, *Dyarcyops maculosus*, *D. melancholicus* and *Megalosara villosa*. The latter two species, plus *Arbanitis fuscipes*, *Dyarcyops ionthus*, *Dyarcyops montanus* and *Arbanitis chisholmi* are removed from synonymy with *M. rapax*. Their current or revised status is listed. This latter species, popularly known as the Sydney Brown Trapdoor Spider, is shown not to occur in the Sydney Region. A key for males of species within the region is presented, as well as distribution maps and comments on taxonomy and natural history.

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Trapdoor spiders of the genus *Misgolas* are burrowing ground-dwellers which rarely have a trapdoor at the burrow entrance [*M. kirstiae* Wishart, 1992 and *M. gracilis* (Rainbow & Pulleine, 1918) are exceptions]. Two species have the burrow entrance as an aerial tube attached to rocks or vegetation [*M. robertsi* (Main & Mascord, 1974) and *M. mascordi* Wishart, 1992]. The spiders are sedentary and, with the exception of the mature male, nocturnal, they wait at the burrow entrance for foraging opportunities. Different entrance structures possibly indicate differences in foraging behaviour. Tree-dwelling *Misgolas* species are unknown.

The genus is distributed along the entire eastern coast of Australia to Tasmania and South Australia. Raven (1985) synonymized the New Zealand genus, *Cantuarina* Hogg, 1902, with *Misgolas* but this is under review. Colouration varies from light tan to dark brown and in some large species

the male is almost black (Wishart & Rowell, 1997). Most species have carapace and some limb segments covered with shining golden hair and many have dark brown blotches on lateral limb surfaces. The most consistent generic characters are (a) ocular area not more than twice as wide as long, and (b) low somewhat elongated carapace. There is much variation in size ranging from body length (including chelicerae) of 8.7 (AM KS5679) to 39.5 (AM KS51817).

The holotype specimen of *M. rapax* Karsch, 1878 (examined) was studied by Main (1985a) who, because of its poor condition, found it difficult to distinguish many useful features. The type locality is specified as “New South Wales”, a large area not helpful in identifying the animal. Recently DNA analysis has shown that *M. rapax* and *M. hubbardi* Wishart, 1992—a species not present in the Sydney Region—are conspecific. Consequently *Misgolas*

**Table 1.** Revised status of *Misgolas* species removed, in the present work, from Main’s (1985) synonymy with *Misgolas rapax*.

nominal species (in original combination)	current or revised status
♀ <i>Misgolas rapax</i> Karsch, 1878	<i>Misgolas rapax</i> Karsch, 1878
♂ <i>Megalosara villosa</i> Rainbow, 1914	<i>Misgolas villosus</i> (Rainbow, 1914) <b>n.comb.</b>
♀ <i>Arbanitis fuscipes</i> Rainbow, 1914	identity uncertain
♂ ♀ <i>Dyarcyops melancholicus</i> Rainbow & Pulleine, 1918	<i>Misgolas melancholicus</i> (Rainbow & Pulleine, 1918) <b>n.comb.</b>
♀ <i>Dyarcyops ionthus</i> Rainbow & Pulleine, 1918	identity uncertain
♂ ♀ <i>Arbanitis montanus</i> Rainbow & Pulleine, 1918	<i>Misgolas montanus</i> (Rainbow & Pulleine, 1918) <b>n.comb.</b>
♀ <i>Arbanitis chisholmi</i> Hickman, 1933	identity uncertain

*hubbardi* Wishart, 1992 will be recognized as a junior synonym of *Misgolas rapax* Karsch, 1878 in Rowell, Brownlie & Wishart (in prep.). Prior to this, *M. rapax* was commonly known as the Sydney Brown Trapdoor Spider and regarded as widespread in the Sydney Region. However, its actual distribution is now shown to be confined to the Illawarra region south of Sydney. As part of the same work Rowell *et al.* determined the “Gerringong population” of “*M. hubbardi*” (now treated as *M. rapax*) to be a different species to that nominated as the “Berry population” of “*M. hubbardi*” (Wishart & Rowell, 1997), and the spiders of the twelve other “population groups” of “*M. hubbardi*” nominated therein are therefore most likely different species also.

The latter half of the nineteenth century was a period when natural history specimen collectors, in particular Edward Damel and Emily Dietreich, distributed their finds amongst different European museums. This, combined with possible communication difficulties and a reliance on female characters, led to confusion among taxonomists of the day whereby different *Misgolas* species were placed in a variety of genera. The work of Dr Barbara York Main (1977, 1985a,b) was a massive step forward. It did much to address this confusion and provided a foundation for this work.

Main (1985b), faced with the problem of poorly preserved types and character-poor female material, placed the following species in synonymy with *Misgolas rapax*: *Arbanitis fuscipes* Rainbow (1914) ♀, *Megalosara villosa* Rainbow (1914) ♂, *Arbanitis chisholmi* Hickman (1933) ♀, *Dyarcyops ionthus* Rainbow & Pulleine (1918) ♀, *Dyarcyops melancholicus* Rainbow & Pulleine (1918) ♂ ♀ and *Arbanitis montanus* Rainbow & Pulleine (1918) ♂ ♀. These species are here removed from synonymy with *M. rapax*. They belong in the genus *Misgolas* but their specific status is revised according to Table 1.

The area of the Sydney Region taken for this study is approximately bounded by the foothills of the Blue Mountains to the West, the Hawksbury River to the North and Port Hacking to the South. The human population of the region is c. 4 million—a major source of spider inquiries at the Australian Museum. Among the most frequent inquiry are those concerning the *Misgolas* trapdoor spider group, not only because they are often confused with the dreaded funnelweb spider (*Atrax robustus* Cambridge [1877]), but also because of the large size of some species. Prompted by this interest this work is part of a series dealing with the genus *Misgolas* in Eastern Australia.

**Material and methods.** All specimens are deposited in the Australian Museum, Sydney unless referred to otherwise. Measuring points are taken from Coyle (1971).

Whilst at rest the bulb of the male palpal organ is folded into the ventral excavation of the palpal tibia. Usually the brown sclerotized convex side is uppermost against the tibia cavity and is considered here to be the dorsal surface. The weakly chitinized flange is retrolaterally situated on the basal part of the embolus. The configuration of the embolus of the male bulb (e.g., straight or bent) is described from dorsal aspect. Measurements and counts refer to the characters on the right side of the specimen with data for the left side given in brackets. Notation of spines is taken from Forster & Wilton (1968).

**Terminology**

*Width/Length Ratio*: ratio of maximum width to length of ocular area; only rarely, and then only marginally, is this greater than 2 (Main, 1985a). *Retroventral Tibial Apophysis* (RTA, Fig. 3H): male palpal tibia always includes a prominent apophysis projecting generally forward from c. midway. *Distal Tibial Apophysis* (DTA, Fig. 3H): male palpal tibia often includes a small, often hooked, apical apophysis positioned retro dorsally. *Tibial Excavation Mound* (TEM, Fig. 3H): a usually pallid mound within tibial excavation, of variable prominence, adjacent to or contiguous with the RTA. *Tibial Excavation Texture* (TET, Fig. 3H,I): an area appearing textured within palpal tibial excavation and encroaches upon TEM. This character is believed to be unique to *Misgolas* species. It has been suggested to be a stridulatory accessory and is not present on palps of females.

Other abbreviations used throughout the text are: *ALE*, anterior lateral eyes; *AM*, Australian Museum, Sydney; *AME*, anterior median eyes; *d*, dorsal; *GW*, collected by Graham Wishart; *p*, prolateral; *pd*, prodorsal; *PLE*, posterior lateral eyes; *PME*, posterior median eyes; *PMS*, posterior median spinnerets; *pv*, proventral; *r*, retrolateral; *rd*, retrodorsal; *rv*, retroventral; *v*, ventral.

Key to males of species in the genus *Misgolas* from the Sydney Region

- 1 Embolic apophysis absent; embolus not modified ..... 2  
 — Embolic apophysis present or embolus modified ..... 3
- 2 Large spider; embolus straight, narrow; embolic flange with about 7 folds, edge straight; DTA hooked ..... *M. villosus*  
 — Very small spider; embolus curved; embolic flange with about 5 folds, edge gently convexly curved; DTA absent ..... *M. lynabra* n.sp.
- 3 Embolus with twisted ridge; embolic flange with one prominent fold; DTA straight ..... *M. gracilis*  
 — Embolus without prominent ridge; embolic flange with multiple folds ..... 4
- 4 Small spider; embolic apophysis placed midway; cymbium with dorsal bristles (not spines) ..... *M. cliffi* n.sp.  
 — Cymbium with dorsal spines (not bristles) ..... 5
- 5 Embolic apophysis placed about midway ..... *M. melancholicus*  
 — Embolic apophysis proximal or subdistal, (not placed midway) ..... 6
- 6 Embolic apophysis proximal, adjacent to embolic flange ..... *M. trangae* n.sp.  
 — Embolic apophysis subdistal ..... 7
- 7 Embolus sinuous; embolic flange with about 4–5 folds, at least 3 quite distinct ..... *M. wayorum* n.sp.  
 — Embolus straight; embolic flange with about 6–9 folds; embolic apophysis placed ..... 8
- 8 Cymbium dorsal spines inclined forward ..... *M. rodi* n.sp.  
 — Cymbium dorsal spines erect or almost so ..... 9
- 9 Venter pale with few brown spots ..... *M. beni* n.sp.  
 — Venter entirely black ..... *M. michaeli* n.sp.

The male of *M. maculosus* is unknown. It is presumed to be a very small spider (similar to *M. trangae*) with characters as follows: carapace length c. 4.0–5.5 mm, rd surface of metatarsi IV bare of spines or with weak spinules; venter with scattered brown spots.

Species determination from female characters is difficult and most conveniently undertaken by reference to distribution data and the figures provided. Note differences in venter patterns and, less reliably, the presence or absence of spines on the rd surface of metatarsi IV.

*Misgolas* Karsch, 1878

**Type species.** *Misgolas rapax* Karsch, 1878: 821, New South Wales. Diagnoses for *Misgolas* and the closely related genus *Arbanitis* are provided in Raven & Wishart (2005).

*Misgolas villosus* (Rainbow, 1914)

Figs. 1A–F, 12A–B

*Megalosara villosa* Rainbow, 1914: 206, figs. 16–22.

*Misgolas villosa* (Rainbow, 1914).—Main, 1985b: 25 (*villosus* in Platnick [2004]).

Not *Misgolas rapax* Karsch, 1878.—Main, 1985b: 25; removed from synonymy in the present work.

**Material examined.** HOLOTYPE ♂, AM KS7178. Enfield NSW.

**Other material.** Males: AM KS3572, Cattai (33°33'S 150°55'E), 25 Sep. 1979, R.H. Eastment; AM KS4462, Mortdale (33°58'S 151°05'E), 4 Feb. 1980, D. Day; AM KS5124, Croydon (33°52'S 151°06'E), 16 Apr. 1981, G. Howard; AM KS5905, Annangrove (33°39'S 150°56'E), 15 Sep. 1980; AM KS8787, Newtown (33°37'S 151°11'E), 22 Mar. 1982; AM KS9989, Glenorie (33°35'S 151°00'E), 15 Sep. 1982; AM KS10431, Willoughby (33°47'S 151°12'E), 22 Nov. 1982, I. Sippel; AM KS10980, Cremorne (33°48'S 151°13'E), 19 Mar. 1983, G. Copp; AM KS16541, Tempe (33°55'S 151°09'E), 28 Apr. 1986; AM KS17786, Mt Kuring-gai (33°45'S 151°04'E), 19 Oct. 1987; AM KS31958, Glebe (33°52'S 151°11'E), 20 May 1992; AM KS34393, North Rocks (33°46'S 151°01'E), 12 Aug. 1992, Mrs Bussel; AM KS36566, Manly (33°47'S 151°16'E), 6 May 1975, J. Marsh; AM KS38521, Panania (33°57'S 151°00'E), 14 Feb. 1972, M. Taylor; AM KS38536, North Sydney (33°50'S 151°12'S), 8 Feb. 1950, B. Adamson; AM KS40627 Narrabeen (33°43'S 151°18'E), 15 Mar. 1994, M.R. Fleming; AM KS43700, Hurstville (33°58'S 151°06'E), 15 Feb. 1971, A. Holland; AM KS44362, Galston (33°38'S 151°04'E), 28 Oct. 1991, T. Dixon; AM KS49357, New Lambton (32°54'S 151°42'E), 26 Mar. 1997, L. Abra; AM KS49381, Avoca Beach (33°27'S 151°26'E), 24 Apr. 1997, L. Abra; AM KS50029, Revesby (33°57'S 151°00'E), 15 May 1984, D.A. Pharm; AM KS50082, Chatswood (33°48'S 151°11'E), 4 Sep. 1997, R. Hendricks; AM KS51110, Gosford (33°25'S 151°20'E); 23 Jan. 1998, L. Abra; AM KS51163, Avalon (33°37'S 151°19'E), 12 Feb. 1998, L. Abra. Females: AM KS5329, Peakhurst (33°58'S 151°04'E), B. Smith; AM KS35576, Summer Hill (33°53'S 151°08'E), 19 Jul. 1993, K. Dorrian; AM KS44222, Burwood (33°52'S 151°06'E); AM KS44224, Gladesville (33°49'S 151°07'E), 15 Feb. 1929.

**Diagnosis.** Large brown spiders; rd surface of metatarsi IV without spines (Fig. 1E). Venter entirely pallid, brown pigmented pattern absent (Fig. 1D,F). In female: Carapace



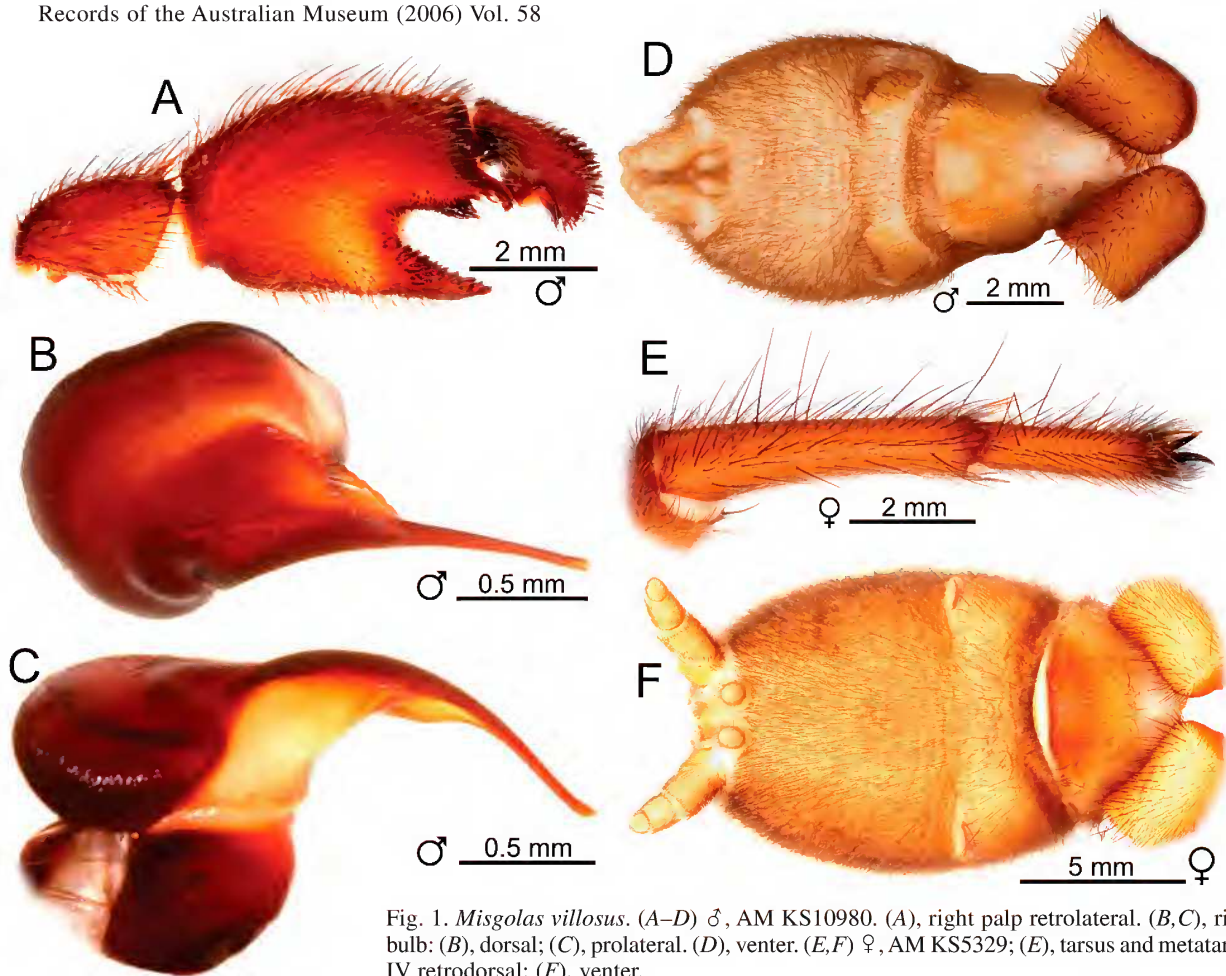


Fig. 1. *Misgolas villosus*. (A–D) ♂, AM KS10980. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter. (E,F) ♀, AM KS5329; (E), tarsus and metatarsus IV retrodorsal; (F), venter.

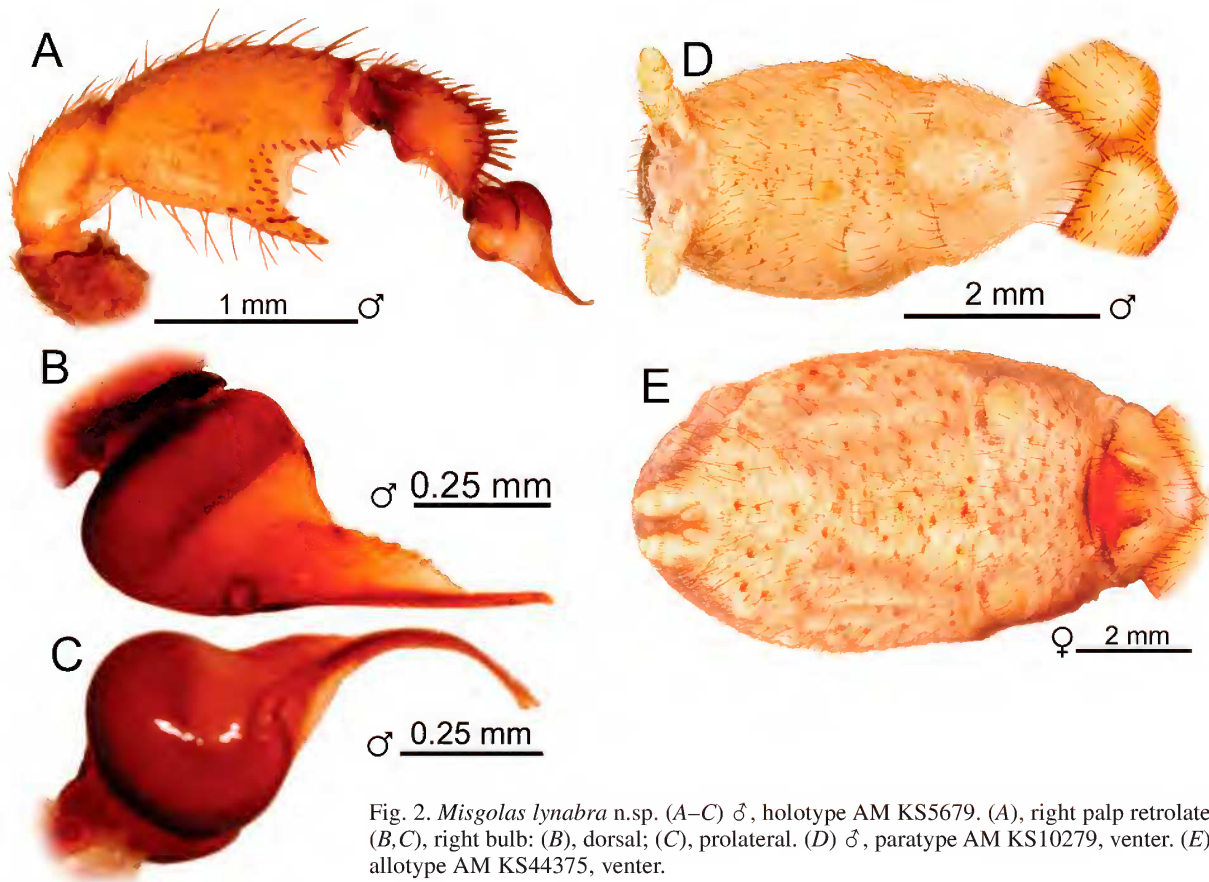


Fig. 2. *Misgolas lynabrya* n.sp. (A–C) ♂, holotype AM KS5679. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D) ♂, paratype AM KS10279, venter. (E) ♀, allotype AM KS44375, venter.



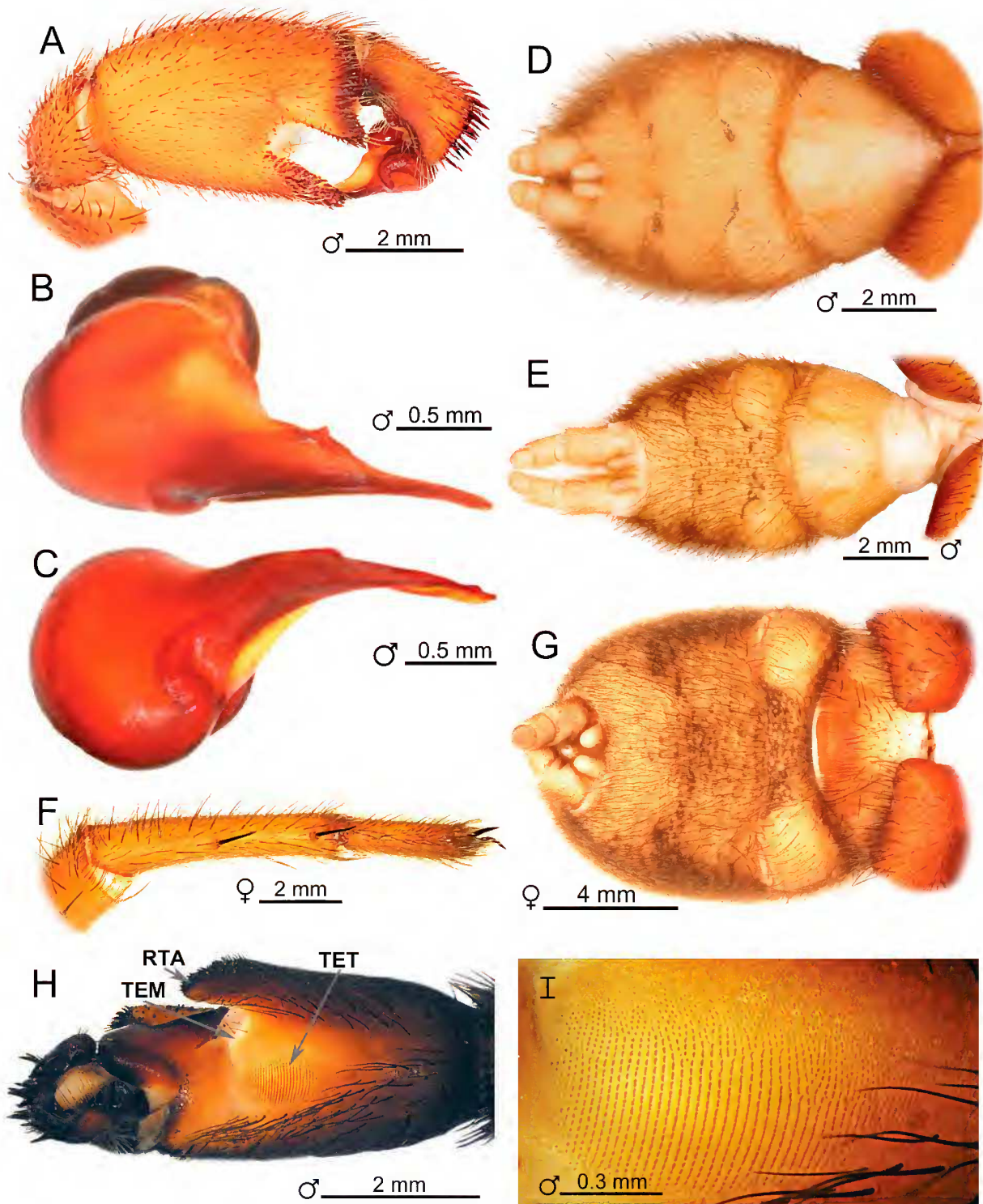


Fig. 3. *Misgolas gracilis*. (A–D) ♂, AM KS22910. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter. (E) ♂, AM KS34720, venter. (F,G) ♀, AM KS44339; (F), tarsus and metatarsus IV retrodorsal; (G), venter. (H,I) ♂, AM KS86211; (H), ventral aspect, palpal tibia excavation; (I), tibial excavation texture.

length c. 8–12. In male: Carapace length c. 8–10; embolus of bulb narrow, straight, with minute d subdistal raised mound; rl flange with c. 7 folds, edge straight (Fig. 1B,C). Conformation of palp as figured (Fig. 1A). TEM raised, pallid, rl surface slightly textured.

**Remarks.** The female (holotype, *A. fuscipes* Rainbow) and male (holotype, *Megalosara villosa* Rainbow) were

redescribed by Main (1985a). However, the identity of the female specimen could be in doubt. The presence of a spine on the rd surface of metatarsi IV of this specimen points to the possibility that it may belong to *Misgolas gracilis*. Should this be the case the absence of a discernible venter pattern in the female specimen could be due to preservation effects. The weakly chitinized area extending onto the pleuron below the clypeus is more prominent in *Misgolas*

*villosus* than in other *Misgolas* species found in the Sydney Region, this is especially so in males. Spines on the dorsal surface of the cymbium are usually pointed and projected gently forward; some rare variations of this have been observed. Very rarely a venter pattern is present.

**Distribution and natural history** (Fig. 12A,B). *Misgolas villosus* is unknown south of George’s River, north of Hunter River Valley or west of 150°55'E longitude. The spider is not found in the area east of the Prince’s Highway to the south of Port Jackson, perhaps due to sandy soil. Collection dates of 198 male specimens (AM) indicate males wander throughout the year. The burrow entrance is figured by Mascord (1970) showing a leaf attached in the manner of the burrow of *M. rapax* (= *Misgolas hubbardi* Wishart 1992).

*Misgolas lynabra* n.sp.

Figs. 2A–E, 12C

**Type material.** HOLOTYPE ♂, AM KS5679, Fox Valley, Wahroonga, (33°42'S 151°08'E), 5 Mar.–25 Apr. 1980 pitfall trap site 1675, B. Henke. ALLOTYPE ♀, AM KS44375, Gordon, (33°44'S 151°09'E), 6 Oct.–4 Nov. 1982 pitfall trap site 2109, C. Horseman. PARATYPES ♂ ♂: AM KS13301, Gordon, (33°44'S 151°09'E) 9–29 Sep. 1983 pitfall trap site 2404. C. Horseman; AM KS10279, details same as AM KS44375; AM KS12645, Gordon 07 Jul.–04 Aug. 1983

**Diagnosis.** Very small brown spider; rd surface of metatarsi IV without spines. Venter pattern as figured (Fig. 2D,E). In female: Carapace length less than 6.0. In male: Carapace length less than 4.0. Palpal bulb with rl embolic flange with 4–6 folds, margin gently convexly curved; embolus not modified, apophysis absent (Fig. 2B,C). Conformation of palp as figured (Fig. 2A).

Description

**Male** holotype (Fig. 2A–D). *Size.* Carapace length 3.52, width 2.93. Abdomen length 4.18, width 2.31. *Colour.* Carapace, legs, palps and chelicerae brown, when dry carapace bedecked with golden hirsute sheen, caput blotched darker, ocular area dark brown. Palps and anterior legs with indistinct darker brown smudges on lateral surfaces of proximal segments. Abdomen dorsum brown with narrow pale bands in bilateral series of seven. Venter pale with sparse dark brown speckles most concentrated between posterior book lungs and along median. *Carapace.* Edge fringed with black bristles which encroach onto posterior 1/3 of post foveal surface. Line of 3 median bristles anteriorly inclined on caput arch. Group of 3 posteriorly inclined bristles on clypeus; 2 small anteriorly inclined bristles between PME. Weakly chitinized area extends onto pleuron membrane below clypeus. Fovea width 0.41, straight. *Eyes.* Raised on mound; anterior width 0.71, posterior width 0.66, length 0.38, width/length ratio 1.87. Line joining posterior edge of ALE bisects AME. Posterior row straight in front, recurved behind. *Chelicerae.* Rastellum single row of 5(5) long spines. Intercheliceral tumescence present. Fang groove with 6(6) promarginal teeth and 4(4) smaller retromarginal/intermediate row teeth. Serrated fang keels suspended along pl edges. *Labium.* Bulbous, length 0.35, width 0.54. Labiosternal suture narrow. *Maxillae* c. 18(19) fusiform antero-ental cuspules. *Sternum.* Length 1.91, width 1.43. Sigilla all small, round and indistinct; posterior sigilla

1.5 diameters from margin; others submarginal. *Legs.* Tibia I with apical bifid apophysis; distal process with 2(2) short spines, proximal process with 2(2) long and 1(1) short spines.

	Palp	I	II	III	IV
Femur	1.61	3.21	2.89	2.19	3.05
Patella	0.79	1.68	1.48	1.13	1.56
Tibia	1.27	1.90	2.22	1.38	2.98
Metatarsus	—	2.35	2.04	1.76	2.65
Tarsus	0.71	1.51	1.30	1.14	1.43
Total	4.38	10.65	9.93	7.60	11.67

*Palp* (Fig. 2A). Cymbium with c. 36 long blunt inclined spines distributed over distal 2/3 of d surface. RTA not swollen basally, covered with d and rd short fusiform spines which continue along rv edge of tibial excavation; DTA absent. TEM contiguous with RTA; surface smooth, TET not evident. *Bulb* (Fig. 2B,C). Embolus straight not modified, apophysis absent; rl embolic flange with c. 5 folds. *Scopula.* Moderately dense on tarsi I and distal 1/3 of metatarsi I; sparse on tarsi II and distal 1/4 of metatarsi II; absent on legs III and IV. *Trichobothria.* Palp: tarsi 4, tibia pd3 rd3. Leg I: tarsi 7, metatarsi 7, tibia pd4 rd4. Leg II: tarsi 6, metatarsi 6, tibia pd4 rd4. Leg III: tarsi 6, metatarsi 5, tibia pd3 rd4. Leg IV: tarsi 6, metatarsi 6, tibia pd5 rd5. *Leg Spination.* Leg I: metatarsi rv0112; tibia v011112. Leg II: tarsi rv12 spinules in file adjacent to scopula; metatarsi v0121112; tibia v01112. Leg III: tarsi v23; metatarsi v9, d0220; tibia v01110, d0220; patella pl3. Leg IV: tarsi v9 plus many bristles, metatarsi v6; tibia v4. *Abdomen.* Cover of fine hairs. Dorsum with median band of fine bristles. Left PLS missing

**Female** allotype (Fig. 2E). *Size.* Carapace length 5.77, width 4.18. Abdomen length 9.60, width 5.39. *Colour.* As for male; all lateral surfaces of limbs with more extensive darker smudges, ocular area unicolourous excepting darker shading between anterior and posterior eyes and some bilateral shading extending along caput arch. *Carapace.* Surface textured, not smooth. Edge sparsely fringed with some weak bristles which encroach onto posterior 1/3 of post foveal surface. Line of 5 median bristles anteriorly inclined on caput arch. Group of 3 long posteriorly inclined hairs on clypeus. Weak chitinized area extends onto pleuron membrane below clypeus. Fovea width 1.27 gently procurved. *Eyes.* Placed on low mound; anterior width 1.07, posterior width 1.04, length 0.54, width/length ratio 1.98. Line joining posterior edge of ALE transects anterior 1/4 of AME. Posterior row straight in front, recurved behind. *Chelicerae.* Rastellum 5(6) long strong spines in anterior row, few others retreating along pd edge. Fang groove with 5(7) promarginal teeth and 6(5) smaller retromarginal/intermediate row teeth. Fang keel as for male. *Labium.* As for male, length 0.74, width 1.07. Labiosternal suture narrow. *Maxillae* c. 37(32) antero-ental fusiform cuspules, many broken away. *Sternum.* Length 3.00, width 2.35. Sigilla as for male. *Legs*

	Palp	I	II	III	IV
Femur	3.09	2.66	3.44	2.58	3.64
Patella	1.68	2.45	2.22	1.76	2.52
Tibia	1.78	2.88	2.37	1.33	3.72
Metatarsus	—	2.24	1.99	1.68	2.88
Tarsus	1.91	1.40	1.27	1.15	1.15
Total	8.46	11.63	11.29	8.50	14.16

*Scopula.* Moderately dense on almost entire v surface of



palpal tarsi and tarsi I; sparse on distal 1/5 of metatarsi I; moderate on entire pv surface only of tarsi II; absent on legs III and IV. *Trichobothria*. Palp: tarsi 7, tibia pd3 rd3. Leg I: tarsi 9, metatarsi 10, tibia pd4 rd4. Leg II: tarsi 8, metatarsi 10, tibia pd4 rd4. Leg III: tarsi 7, metatarsi 7, tibia pd4 rd4. Leg IV: tarsi 8, metatarsi 7, pd4 rd5. *Leg spination*. Palp: tarsi pv01000, rv01000, tibia pv0112, rv02. Leg I: metatarsi v0112; tibia v0112. Leg II: metatarsi v012; tibia v0110. Leg III: tarsi v4 scattered on distal half; metatarsi v012, d0220; patella pd3. Leg IV: tarsi v4 scattered on distal half; metatarsi v01113. *Abdomen*. As for male. *Genitalia*. Sclerotized lip of epigynum uniformly recurved.

**Etymology.** The species is named in recognition of Mrs Lyn Abra one time spider curator at the Reptile Park, Gosford, NSW.

**Distribution and natural history** (Fig. 12C). Known only from small pockets of natural parkland within the densely settled urban region north of Sydney Harbour. Collection has been through placement of pitfall traps. Small size may not have lent itself to encouraging public interest and collection from that source is unknown. Pitfall traps were set amongst leaf litter and indicated male wandering time ranges from March to October. The burrow is unknown.

### *Misgolas gracilis* (Rainbow & Pulleine, 1918)

Figs. 3A–I, 12A–B

*Arbanitis gracilis* Rainbow & Pulleine, 1918:110, pl. 22, figs. 57–58.

*Arbanitis villosus* Rainbow, 1920, p. 77–85, **new synonym**.

*Arbanitis bradleyi* Rainbow, 1920, p. 77–85, **new synonym**.

*Dyarcycops gracilis*.—Main, 1977:71 (from *Arbanitis*).

*Misgolas gracilis*.—Main, 1985b:24 (from *Dyarcycops*).

**Material examined.** HOLOTYPE ♀, AM KS6262, The Domain, Sydney (33°52'S 151°13'E), R.H. Pulleine.

**Other material.** Males: AM KS2170, Randwick (33°55'S 151°15'E), 19 Dec. 1978, N. Coroneds; AM KS3044, Mudgee (32°36'S 149°35'E), 31 May 1979, Mudgee Pastures Protection Board; AM KS6246, Annandale (33°52'S 151°10'E), 14 Dec. 1980; AM KS8511, Kendall (31°38'S 152°42'E), 15 Dec. 1981, C. Dick; AM KS8813, Tamworth (31°05'S 150°56'E), 15 Dec. 1981; AM KS10804, Berowra Waters (33°35'S 151°07'E), 15 Mar. 1983; AM KS18393, Blakehurst (33°59'S 151°06'E), 6 Jan. 1988; AM KS21512, Heathcote (34°05'S 151°01'E), 28 Feb. 1989; AM KS22785, Harbord (33°46'S 151°17'E), 9 Dec. 1989; AM KS22910, Narrabeen (33°43'S 151°18'E), 24 Apr. 1929, E. Mitchell; AM KS30221, Tarago (35°04'S 149°39'E), 15 Feb. 1990, E. Gibson; AM KS34720, Glebe (33°53'S 151°11'E), 28 Jan. 1993; AM KS35042, Potts Point (33°51'S 151°13'E), 20 Mar. 1993, Scott Barnes; AM KS36577, Bundeena (34°05'S 151°09'E), 18 Dec. 1973; AM KS38530, Windsor (33°37'S 150°49'E), 11 Oct. 1929; AM KS50061, Jamberoo (34°39'S 150°44'E), 15 Dec. 1995, L. Mitchell-Smith; AM KS69954, Bateau Bay (33°22'S 151°29'E), 20 Mar. 1999, L. Abra; AM KS86211, Symes Bay (32°21'S 152°30'E), 1 Mar. 2002, G. McKay. Females: AM KS7856, Warrumbungle National Park (31°13'S 149°05'E), 1 Feb. 1969, M. Gray; AM KS44339, Yowie Bay (34°00'S 151°06'E), 23 Nov. 1994, Milton Way; AM KS49338, Towler's Bay (33°37'S 151°19'E), 6 Feb. 1997, GW; AM KS69955, Pott's Point (33°51'S 151°13'E), T. Leslie.

**Diagnosis.** Medium to large dark brown spiders, eye group as narrow or narrower in front than behind; rd surface of metatarsi IV with a file of 1–4 long black spines (Fig. 3F). Venter pattern usually as figured (Fig. 3D), occasionally variable (Fig. 3E,G or black). In female: Carapace length c. 8–13.2. In male: Carapace length c. 5–10.2; embolus of

bulb and rl embolic flange as figured (Fig. 3B,C). Conformation of palp as figured (Fig. 3A). TEM exiguous, pl surface chitinized and bearing strong TET.

**Remarks.** The female holotype of this species was described from a specimen collected from The Domain, parkland on the southern shore of Sydney Harbour near the central business district. Three female paratypes are lost (Main, 1985b). The holotype, preserved in alcohol, is a small female specimen, epigynum only moderately sclerotized. It is in poor condition, carapace damaged, abdomen detached, most limbs fractured and some segments missing. Markings on venter, described nature of burrow lid and precise locality where found allowed identification. No other *Misgolas* specimens are known from the type locality. An adult male collected from Potts Point, neighbouring the type locality of *M. gracilis*, is taken to be conspecific and is that described here.

**Description** of male AM KS35042 (Fig. 3A–E). *Size*. Carapace length 8.82, width 6.37. Abdomen length 8.72, width 5.68. *Colour*. Carapace and limbs brown concolourous, dark brown smudges on limbs absent. Abdomen dorsum dark brown with distinct pale bands in bilateral series of eight. Venter pale with dark brown markings concentrated marginally to and between ental edges of posterior book lungs and others forming a broken transverse mid-line. *Carapace*. Edge fringed with long black bristles which encroach onto posterior half of post foveal surface. Sparse cover of pale hairs and weak black bristles; hairs extend onto limbs. Group of c. 10 bristles on clypeus. Weakly chitinized area with 3 setae extends onto pleuron membrane below clypeus. Fovea width 1.19, slightly recurved. *Eyes*. Raised on a mound; anterior width 1.31, posterior width 1.38, length 0.92, width/length ratio 1.50. Line joining posterior edge of ALE transects anterior 1/3 of AME. Posterior row straight in front, recurved behind. *Chelicerae*. Rastellum 6(5) spines on antero-ental edge. Intercheliceral tumescence present. Fang groove with 7(7) promarginal teeth and 8(8) smaller retromarginal/intermediate row teeth. Weak serrated fang keel on pl edge. *Labium*. Bulbous. Length 0.84, width 1.07. Labiosternal suture divided. *Maxillae*. Cuspules c. 33(34) antero-ental stick-like, none surmounted by fine hair. *Sternum*. Length 5.16, width 3.07 appearing elongate. First and second pair sigilla round, submarginal; third pair oval, c. one diameter from margin. *Legs*. Tibia I with apical bifid apophysis; distal process with 2(2) short pointed spines, proximal process with 4(3) longer pointed spines.

	Palp	I	II	III	IV
Femur	5.03	7.94	7.35	6.26	8.53
Patella	2.46	4.12	3.78	3.25	4.11
Tibia	4.11	5.89	5.34	4.42	7.74
Metatarsus	—	6.32	5.84	5.83	8.42
Tarsus	2.03	3.25	3.19	3.13	3.56
Total	13.63	27.52	25.50	22.89	32.36

*Palp* (Fig. 3A). Cymbium with c. 46 long strong anteriorly inclined, almost prostrate, spines widespread on distal 1/3 of d surface. RTA covered with d and rd short spines which continue along rl and rv edge of tibial excavation; DTA not hooked, covered with pointed short strong spines. TEM exiguous, with 3 hairs, pl surface chitinized and bearing strong TET. *Bulb* (Fig. 3B,C). Embolic rl flange thick, opaque, narrow, with one prominent fold, c. 4 small corrugations, twists under, around and along embolus terminating as a subdistal d mound. *Scopula*. Complete on



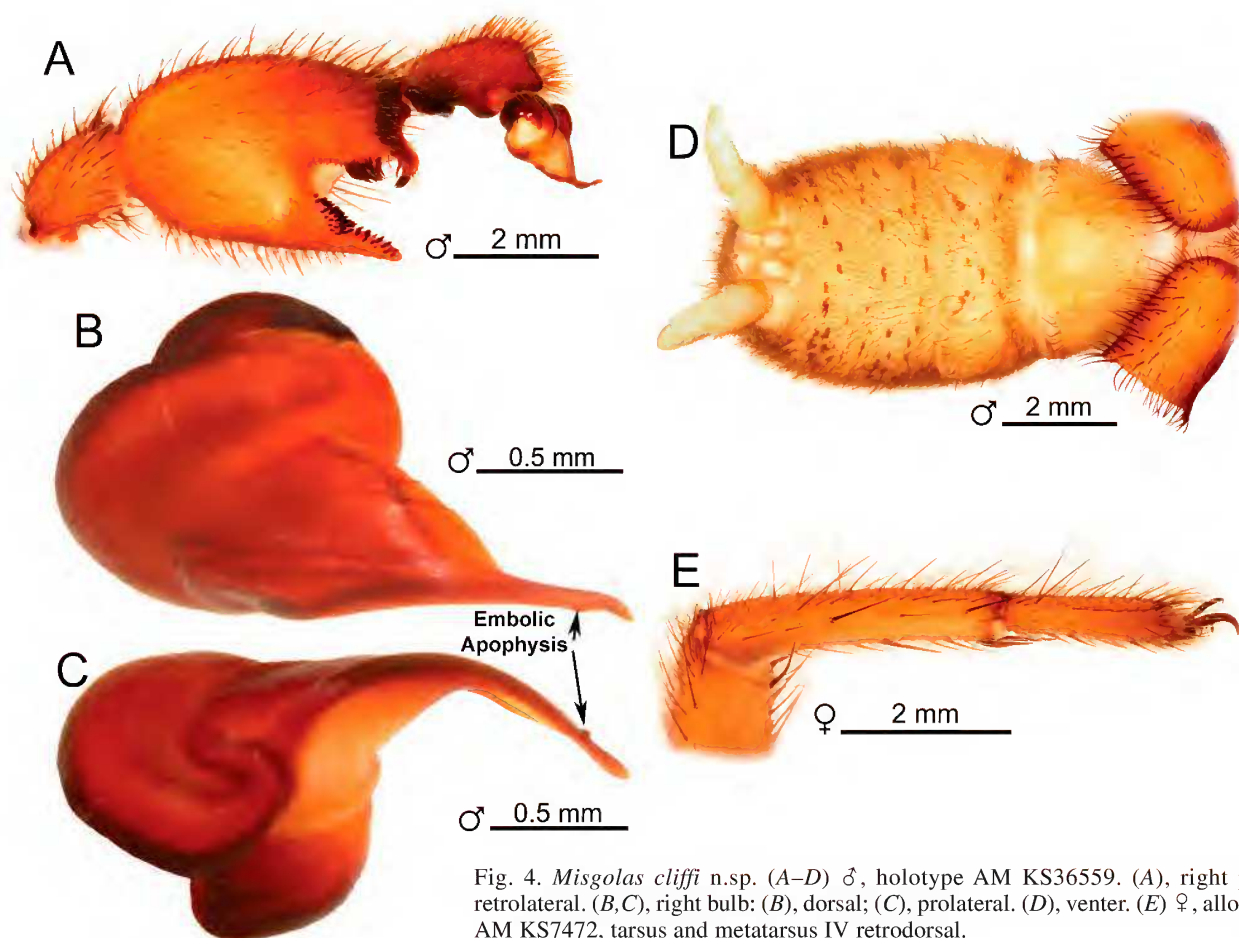


Fig. 4. *Misgolas cliffi* n.sp. (A–D) ♂, holotype AM KS36559. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter. (E) ♀, allotype AM KS7472, tarsus and metatarsus IV retrodorsal.

all tarsi, dense on tarsi I and II, weak on III and IV; incomplete and sparse on all metatarsi. *Trichobothria*. Palp: tarsi 11, tibia pd6 rd6. Leg I: tarsi 12, metatarsi 16, tibia pd8 rd7. Leg II: tarsi 12, metatarsi 16, tibia pd7 rd7. Leg III: tarsi 12, metatarsi 13, tibia pd7 rd7. Leg IV: tarsi 12, metatarsi 17, tibia pd8 rd8. *Leg spination*. Leg I: metatarsi v012; tibia v0112, pd010. Leg II: tarsi rl row 7 small black spines; metatarsi rv0111113, pv011, pd000010; tibia v0113; pd01110. Leg III: tarsi v24 scattered; metatarsi pv6, rv8, d002220; tibia v0114, pl00110, rl00110; patella pd4. Leg IV: tarsi v17 strong scattered spines; metatarsi v8 strong spines, rd010; tibia v012. *Abdomen*. Dorsum with cover of fine bristles with underlying cover of fine hairs extending over venter.

**Taxonomic note.** Of 361 male specimens examined 31 (7.6%) bore no distal bifid tibial apophysis on leg I or else the apophysis was greatly reduced. The spiders were all of small size but not all small specimens were affected. These neotenic appearing forms were collected from widespread localities. The aberration has not been observed in other *Misgolas* species.

**Distribution and natural history** (Fig. 12A,B). This spider is the most widespread of any known *Misgolas* species found in NSW, ranging from Kendall and Tamworth in the north, west to the Warrumbungle Range, south to Mudgee and Tarago and thence east to Jamberoo (Fig. 12A,B). This distribution encompasses a variety of environments.

Collection dates of 361 male specimens held by AM indicate males wander throughout the year.

Burrow structure is given by Jordan (2001): Soil and silk

burrow, door flap-like and fragile, semi-circular in shape, flattened on hinge side and silk lined below; a mature female burrow door measured c. 2 thick, 31 wide and 21 at right angles to hinge; thick silk around entrance rim; base of burrow enlarged and bulbous. This description concurs with burrow from which specimen AM KS49338 was excavated. Jordan (2001) noted *M. gracilis* hunted at entrance, door resting on caput. Tarsi of palps, legs I and II rest on rim visible beyond edge of door. Main (1976) records micro-habitat preference and syntopic association with another *Misgolas* species.

### *Misgolas cliffi* n.sp.

Figs. 4A–E, 12C

**Material examined.** HOLOTYPE ♂, AM KS36559, Eastwood (33°47'S 151°05'E), 6 Aug. 1973, Mrs B. Stevenson. ALLOTYPE ♀, AM KS7472, Dundas (33°48'S 151°02'E), 3 May 1981, J. Carr. Abdomen in poor condition. PARATYPES ♂♂: AM KS785, Dundas, (33°48'S 151°02'E), 15 Jun. 1977, A. Kearney; AM KS5106, Carlingford (33°47'S 151°03'E), 6 May 1980, A. Bastian; AM KS5876, West Pennant Hills, (33°44'S 151°00'E), 23 Jun. 1980; AM KS7680, Blacktown (33°46'S 150°54'E), 31 May 1981; AM KS10881, Gordon (33°45'S 151°09'E), 4 Apr. 1983, C. Horseman; AM KS36540, Neutral Bay (33°50'S 151°13'E), 29 Apr. 1971, K. Fields; AM KS36546, Springwood (33°42'S 150°34'E), 24 Jun. 1973, H. Christie; AM KS38535, Cambridge Park (33°45'S 150°44'E), 15 Jul. 1958; AM KS50005, West Pennant Hills (33°44'S 151°00'E), 25 May 1997, R. Saunders; AM KS50021, West Pennant Hills (33°44'S 151°00'E), 8 Jun. 1997, R. Saunders; AM KS51822, Dundas (33°48'S 151°02'E), 3 May 1981, J. Carr; AM KS69950, Dundas (33°48'S 151°02'E), 3 May 1981, J. Carr; AM KS35085, Concord (33°50'S 151°05'E), 17 May 1993, A. Batkin.

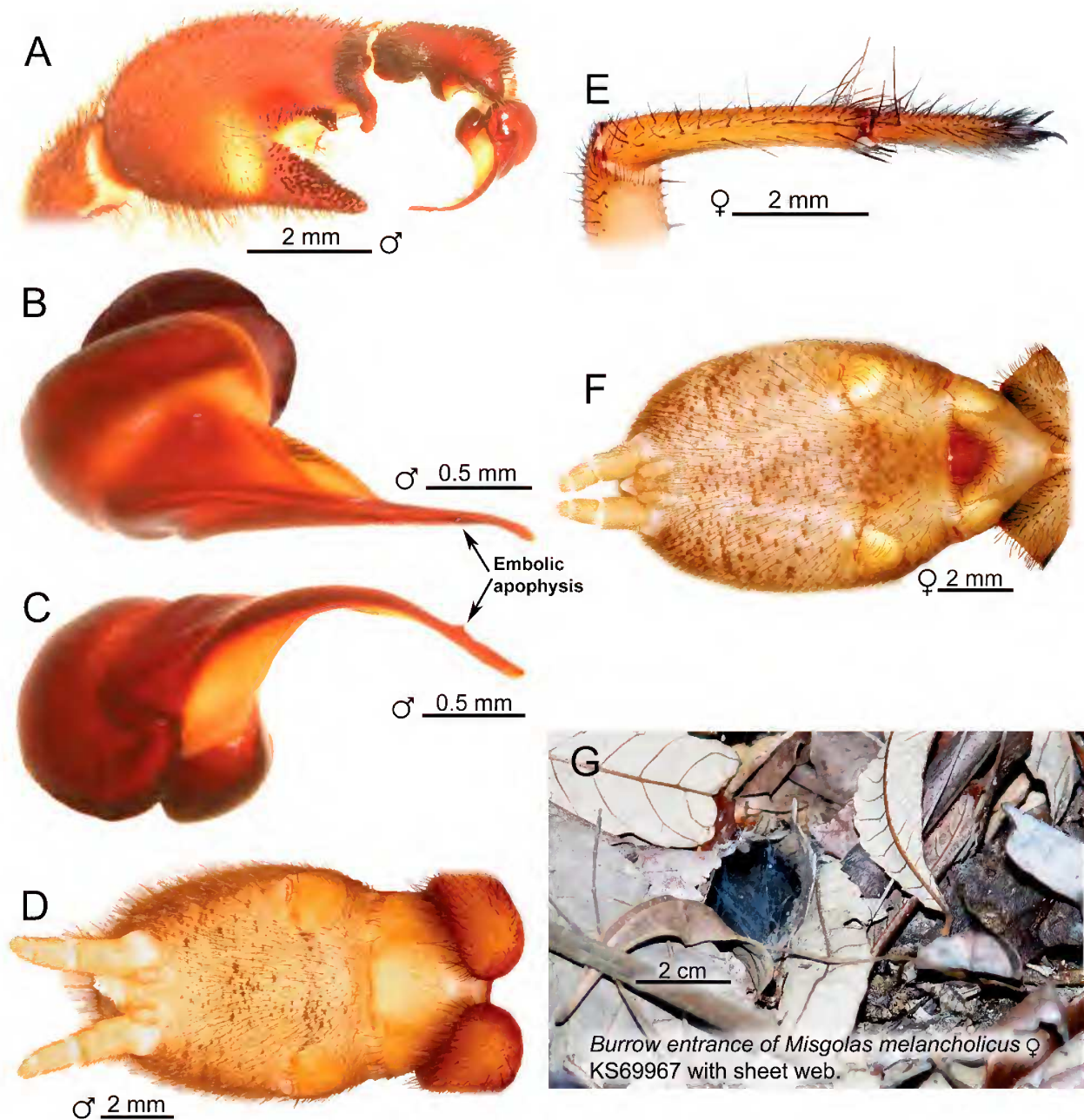


Fig. 5. *Misgolas melancholicus*. (A–D) ♂, AM KS6222. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter. (E,F) ♀, AM KS69967. (E), tarsus and metatarsus IV retrodorsal; (F), venter. (G), burrow entrance.

**Diagnosis.** Medium sized brown spider; rd surface of metatarsi IV with 1 to 3 weak spines. Venter pattern as figured (Fig. 4D). In male: Carapace length c. 6–8.6. Palpal bulb with rl embolic flange with c. 5 folds, margin gently convexly curved; embolic apophysis pd placed midway on embolus (Fig. 4B,C). Cymbium dorsum with many long bristles, spines absent. Conformation of palp as figured (Fig. 4A).

#### Description

**Male** holotype (Fig. 4A–D). *Size.* Carapace length 7.64, width 5.78. Abdomen length 8.13, width 4.41. *Colour.* Carapace, limbs and chelicerae brown, when dry carapace bedecked with golden hirsute sheen, ocular area black. Darker brown lateral smudges on limbs not apparent.

Abdomen dorsum brown with pallid bands in a bilateral series of c. 7, dorsum appearing more or less maculated. Venter pale with scattered arrangement of c. 20 evenly distributed dark spots. *Carapace.* Edge fringed with black bristles which encroach onto posterior 1/3 of post foveal surface. Two anteriorly inclined bristles on caput arch. Few golden hairs and c. 7 small bristles between PME; 8 posteriorly inclined bristles on clypeus. Weak chitinized area with some brown hairs extends onto pleuron membrane below clypeus. Fovea width 1.13, recurved at extremities. *Eyes.* Placed on a mound; anterior width 1.23, posterior width 1.07, length 0.77, width/length ratio 1.60. Line joining posterior edge of ALE transects anterior 1/4 of AME. Posterior row straight in front recurved behind. *Chelicerae.* Rastellum row of 6(7) spines, a few retreating along pd edge.



Intercheliceral tumescence brown, not pallid. Fang groove with 9(9) promarginal teeth and 5(7) small retromarginal teeth; intermediate row absent. Fangs armed with smooth pl keels. *Labium*. Bulbous, length 0.90, width 1.20. Labiosternal suture broad narrowing medially. *Maxillae* c. 35(32) small pointed fusiform antero-ental cuspules, most surmounted with a fine hair. *Sternum*. Length 4.38, width 3.08. Sigilla round; first and second pair small, third pair larger; first pair submarginal, second pair one diameter from margin, third pair two diameters from margin. *Legs*. Tibia I with apical bifid apophysis; distal process with 2(2) short pointed and proximal process with 3(3) longer pointed spines.

	Palp	I	II	III	IV
Femur	4.17	7.31	6.63	5.34	7.00
Patella	1.78	3.68	3.38	2.58	3.19
Tibia	4.05	5.28	5.03	3.38	6.20
Metatarsus	—	5.77	5.46	4.97	6.45
Tarsus	1.96	3.44	3.38	3.19	3.50
Total	11.96	25.48	23.88	19.46	26.34

*Palp* (Fig. 4A). Cymbium with many long weak attenuate bristles distributed over distal  $\frac{2}{3}$  of d surface; spines absent; lateral surfaces covered with long pallid hairs. RTA with sub-basal rd swelling; covered with d short spines. Mid-region of rv surface of tibial excavation bears an extended brush of c. 15 long pointed spines; DTA hooked terminated with c. 12 short pointed spines. TEM contiguous with RTA; pv surface weakly textured. *Bulb* (Fig. 4B,C). Embolus tip with slight pl bend; thorn-like d embolic apophysis placed c. midway; rl embolic flange with 5 major folds. *Scopula*. Dense on tarsi I and II, sparse on tarsi III and IV, sparse and incomplete on metatarsi I, II and III. *Trichobothria*. Palp: tarsi 11, tibia pd6 rd6. Leg I: tarsi 12, metatarsi 16, tibia pd8 rd7. Leg II: tarsi 12, metatarsi 16, tibia pd7 rd7. Leg III: tarsi 12, metatarsi 13, tibia pd7 rd7. Leg IV: tarsi 12, metatarsi 17, tibia pd8 rd8. *Leg spination*. Leg I: metatarsi v012, tibia v0112, pd010. Leg II: tarsi rl row of 7 small black spines, metatarsi rv01111113, pv011, pd000010; tibia v0113; pd01110. Leg III: tarsi v24 scattered; metatarsi pv6 scattered, rv8 scattered, d002220; tibia v0114, pl00110, rl00110; patella pd4. Leg IV: tarsi v17 scattered, metatarsi v8 scattered, rd010; tibia v012. *Abdomen*. Dorsum covered with brown bristles, sides and venter covered with pallid hairs.

**Female** allotype (Fig. 4E). *Size*. Carapace length 6.75, width 4.97. Abdomen length 13.00, width 7.15. *Colour*. Carapace, limbs and chelicerae light brown. Palps, legs I and II with some lateral dark brown smudges. When dry carapace bedecked with golden hirsute sheen. Abdomen dorsum darker brown with indistinct pallid bands in bilateral series of c. 7, dorsum appearing maculated. Venter pale with scattered arrangement of c. 26 dark spots. *Carapace*. Edge fringed with pale brown hairs which encroach onto posterior  $\frac{1}{4}$  of post foveal surface. Two anteriorly inclined bristles on caput arch; c. 8 small bristles between PME; 4 posteriorly inclined bristles and many pallid hairs on clypeus. Weakly chitinized area with some small bristles and pallid hairs extends onto pleuron membrane below clypeus. Fovea width 1.33, straight. *Eyes*. Placed on low mound; anterior width 1.10, posterior width 1.00, length 0.69, width/length ratio 1.59. Line joining posterior edge of ALE transects anterior  $\frac{1}{5}$  of AME. Posterior eyes straight in front, recurved behind.

*Chelicerae*. Rastellum single row of 5(5) spines with a few short spines forming a second row. Fang groove with 7(7) promarginal teeth and 8(7) small retromarginal teeth; intermediate row absent. Fangs armed with smooth pl keels. *Labium*. Bulbous, length 1.02, width 1.28. Labiosternal suture broad narrowing medially. *Maxillae* c. 38(37) short thick blunt cuspules. *Sternum*. Length 3.99, width 3.00. Sigilla all small round; first pair submarginal, second pair 1 diameter and third pair 2 diameters from margin. *Legs*

	Palp	I	II	III	IV
Femur	4.05	5.40	4.61	3.56	4.85
Patella	2.15	3.07	2.82	2.21	3.07
Tibia	2.27	3.25	2.82	1.84	4.18
Metatarsus	—	2.88	2.58	2.33	3.62
Tarsus	2.64	1.84	1.59	1.65	1.84
Total	11.11	16.44	14.42	11.59	17.56

*Scopula*. Dense on almost entire v surfaces of palpal tarsi, and legs I and II, sparse and incomplete on metatarsi I and II, absent on legs III and IV. *Trichobothria*. Palp: tarsi 9, tibia pd6 rd6. Leg I: tarsi 10, metatarsi 11, tibia pd8 rd7. Leg III: tarsi 11, metatarsi 12, tibia pd7 rd6. Leg IV: tarsi 11, metatarsi 13, tibia pd8 rd7. *Leg spination*. Palp: tarsi v02000; tibia v02214. Leg I: metatarsi v011, pl01; tibia v0111. Leg II: metatarsi v 01113; tibia v01111. Leg III: tarsi v11 scattered, pl0112, rl0110; patella pd7. Leg IV: v17 scattered; metatarsi v13 scattered, pl0010010. *Abdomen*. Dorsum hirsute with few small median bristles. Venter covered with weak bristles. *Genitalia*. Sclerotized lip of epigynum with median indentation.

**Etymology**. The species is named in recognition of author's second son, Cliff Wishart.

**Distribution and natural history** (Fig. 12C). This species is restricted to coastal areas of northern Sydney through to densely settled urban western suburbs and Springwood in the Blue Mountains.

Evidence from some home pool collections suggests this spider is well established. However being small in size, it has received little attention and collections by the public have been rare. The burrow is unknown.

***Misgolas melancholicus*  
(Rainbow & Pulleine, 1918) n.comb.**

Figs. 5A–G, 12A–B

*Dyarcyops melancholicus* Rainbow & Pulleine, 1918:106, pl. 12, fig. 10.

Not *Misgolas rapax*.—Main, 1985b: 25.

**Material examined**. SYNTYPES ♂ and ♀ AM KS1631, Clifton Gardens, NSW (33°50'S 151°15'E), Aug. 1910, R. Pulleine.

**Other material**. Males: AM KS5328, Tamworth (31°05'S 150°55'E), 19 Jun. 1980, M. Keys; AM KS6222, Nth Balgowlah (33°48'S 151°15'E), 10 Dec. 1980; AM KS7222, Narrabeen (33°43'S 151°18'E), 26 Mar. 1981, J. Williams; AM KS8316, Springwood (33°41'S 150°34'E), 3 Feb. 1979, L. Abra; AM KS13618, North Ryde (33°47'S 151°07'E), 4 Jan. 1984, R. Nolan; AM KS16306, Hornsby Heights (33°39'S 151°05'E), 2 Feb. 1985; AM KS30220, Mt Tomah (33°33'S 150°25'E), 26 Feb. 1989, collector unknown; AM KS36673, Katoomba (33°42'S 150°19'E), 6 Aug. 1957, L. Abra; AM KS38551, Balmain (33°50'S 151°10'E), 7 Sep. 1975, G. Taylor; AM KS38632, Stewarts Brook (31°55'S 151°24'E), 18 Feb. 1993, M. Gray & G. Cassis; AM KS43695, Engadine (34°03'S 151°01'E), 24 Nov. 1972; AM KS43697, Waverly (33°55'S 151°03'E), 15 Dec. 1970;



AM KS44414, Gordon (33°44'S 151°09'E), 1 Mar. 1984; AM KS49366, New Lambton (32°54'S 151°42'E), 10 Apr. 1997, L. Abra; AM KS49369, Gosford (33°25'S 151°20'E), 10 Apr. 1997, L. Abra; AM KS49384, Harbord (33°47'S 151°18'E), 24 Apr. 1997, L. Abra; AM KS51161, Wisemans Ferry (33°22'S 150°59'E), 12 Feb. 1998, L. Abra; AM KS51785, Spring Ridge (32°16'S 149°21'E), 9 Jul. 1954, A. MacPherson; AM KS69956, Newport (33°38'S 151°18'E), 15 Sep. 1973, J.A. Wright; S8992 (QM), Armidale (30°30'S 151°39'E), 15 Jun. 1979, D. Piggot. Females: AM KS49389, Gosford (33°36'S 151°20'E), 24 Apr. 1997, L. Abra; AM KS49397, Umina (33°31'S 151°18'E), 12 May 1997, L. Abra; AM KS69966, Clifton Gardens (33°50'S 151°15'E), 9 Apr. 2003, G. Wishart; AM KS69967, details same as AM KS69966.

**Diagnosis.** Large dark brown spiders; rd surface of metatarsi IV without spines (Fig. 5E). Venter pattern dark scattered spots (Fig. 5D,F). In female: Carapace length c. 7.2–11.2. In male: Carapace length c. 5.5–10.5. Embolus of bulb with rl flange with c. 6 folds, margin almost straight; embolus tip with pl bend (Fig. 5B); embolic d apophysis with a rl lean placed midway (Fig. 5B,C). Conformation of palp as figured (Fig. 5A).

**Comment.** Main (1977) suggested this species should be synonymized with *M. rapax* and later (Main, 1985b) determined accordingly. Conformation of male bulb and brown marks on venter are characters not shared by type specimen for *Megalosara villosa* Rainbow (1914) and the validity of *M. melancholicus* is restored in this work.

**Distribution and natural history** (Fig. 12A,B). A widespread species in NSW, rarely found south of Port Jackson, extending north to Armidale, west to Spring Ridge and Katoomba. Occupies a variety of habitats.

Collection dates of 216 male specimens (AM) indicate the majority (55%) were wandering during the period January to April.

At the type locality the burrow entrance is raised above ground level, the lip is attached to, and partially supported by, leaves (Fig. 5G).

### *Misgolas trangae* n.sp.

Figs. 6A–D, 12C

**Material examined.** HOLOTYPE ♂, AM KS49026, Jamieson Park, Narrabeen, NSW (33°43'S 151°18'E), 5–19 March, 1996 pitfall trap site 1, M.R. Gray and H.M. Smith. PARATYPES ♂♂, AM KS50019, details same as holotype; AM KS22843, Balgowlah, NSW (33°47'S 151°15'E), 16 Apr. 1963, P.F. Gambrill.

**Diagnosis.** Males are small brown spiders, carapace length c. 5.5; rd surface of metatarsi IV without spines; venter pale with pattern of distinct brown spots (Fig. 6D). Palpal bulb (Fig. 6B,C) with rl embolic flange with 4 folds, margin convexly curved; small dorsal embolic apophysis placed adjacent to embolic flange. Conformation of palp as figured (Fig. 6A). Female unknown.

### Description

**Male** holotype (Fig. 6A–D). *Size.* Carapace length 5.34, width 3.99. Abdomen length 4.79, width 2.89. *Colour.* Caput and chelicerae dark brown, thorax lighter brown. Limbs brown, dark laterally with some faint darker smudges. When dry carapace bedecked with golden hirsute sheen. Abdomen dorsum pale with brown bands in a bilateral series of c. 7 appearing more or less maculated. Venter pale with evenly scattered arrangement of dark brown spots. *Carapace.* Edge fringed with black bristles which encroach onto posterior 1/5 of

post foveal surface. One anteriorly inclined bristle on caput arch. Bristles absent between PME; 3 posteriorly inclined bristles on clypeus. Weakly chitinated area extends onto pleuron membrane below clypeus. Fovea width 0.7, slightly recurved, posterior rim distorted. *Eyes.* Placed on a mound; anterior width 0.87, posterior width 0.77, length 0.51, width/length ratio 1.71. Line joining posterior edge of ALE transects anterior 1/4 of AME. Posterior row recurved in front, straight behind. *Chelicerae.* Rastellum first row of 5(5) spines, second row of 2(2) spines. Intercheliceral tumescence present. Fang groove with 5(6) large promarginal teeth and 4(2) (perhaps more obscured) small retromarginal/intermediate row teeth. Fang keels smooth. *Labium.* Bulbous, length 0.44, width 0.72. Labiosternal suture broad narrowing medially. *Maxillae* c. 25(21) small fusiform antero-ental cuspules. *Sternum.* Length 2.74, width 2.05. Anterior and middle pair sigilla small, round, submarginal; posterior pair larger, ovate, one diameter from margin. *Legs.* Tibia I with apical bifid apophysis; distal process with 2(2) short blunt and proximal process with 3(3) longer pointed spines.

	Palp	I	II	III	IV
Femur	2.51	4.61	4.05	3.32	4.98
Patella	1.23	2.33	2.15	1.66	2.27
Tibia	2.56	3.44	3.13	2.15	4.24
Metatarsus	—	3.32	3.07	2.89	4.18
Tarsus	1.10	2.03	1.96	1.96	2.33
Total	7.20	15.73	14.36	11.98	17.50

*Palp* (Fig. 6A). Cymbium with dense cluster of long weak ensiform spines distributed over distal 2/3 of d surface. RTA swollen midway; covered with d and rd short spines; extended brush of c. 22 longer pointed spines on rv surface of mid region of tibial excavation; DTA hooked, terminated with c. 12 short spines. TEM contiguous with RTA; pv surface weakly textured. *Bulb* (Fig. 6B,C). Embolus broad, gently bent and twisted with small d embolic apophysis basally placed contiguous with rl embolic flange; flange with 4 folds, margin strongly convexly curved. *Scopula.* Dense on Tarsi I and II, sparse on tarsi III and IV, incomplete on metatarsi I and II. *Trichobothria.* Palp: tarsi 8, tibia pd5 rd5. Leg I: tarsi 12, metatarsi 11, tibia pd6 rd5. Leg II: tarsi 11, metatarsi 11, tibia pd5 rd5. Leg III: tarsi 10, metatarsi 10, tibia pd5 rd5. Leg IV: tarsi 11, metatarsi 12, tibia pd7 rd7. *Leg spination.* Leg I: metatarsi v01002; tibia v0112. Leg II: metatarsi v0202; tibia v0113. Leg III: tarsi rv001110; metatarsi v02212, d002020; tibia v0122, d0220; patella pd3. Leg IV: tarsi v12; metatarsi v8; tibia v0223. *Abdomen.* Bilateral cover of fine hairs. Venter and dorsum with larger hairs; dorsum with anteriorly placed group of c. 30 long bristles.

**Taxonomic note.** May be confused with *M. maculosus* for which the male is unknown. Because of the maculate d abdominal colouration, arrangement of brown spots on venter, absence of spines on rd surface of metatarsi IV and littoral location consideration was given for this spider being the male of *M. maculosus* (Rainbow & Pulleine, 1918). Because the 30Km distance and the intersection of Sydney Harbour separating the respective localities this spider is determined here a good species.

**Etymology.** The species is named in recognition of the author's second daughter, Trang Wishart.

**Distribution and natural history** (Fig. 12C). This spider is known only from Sydney's coastal suburbs north of Port Jackson. The burrow is unknown.

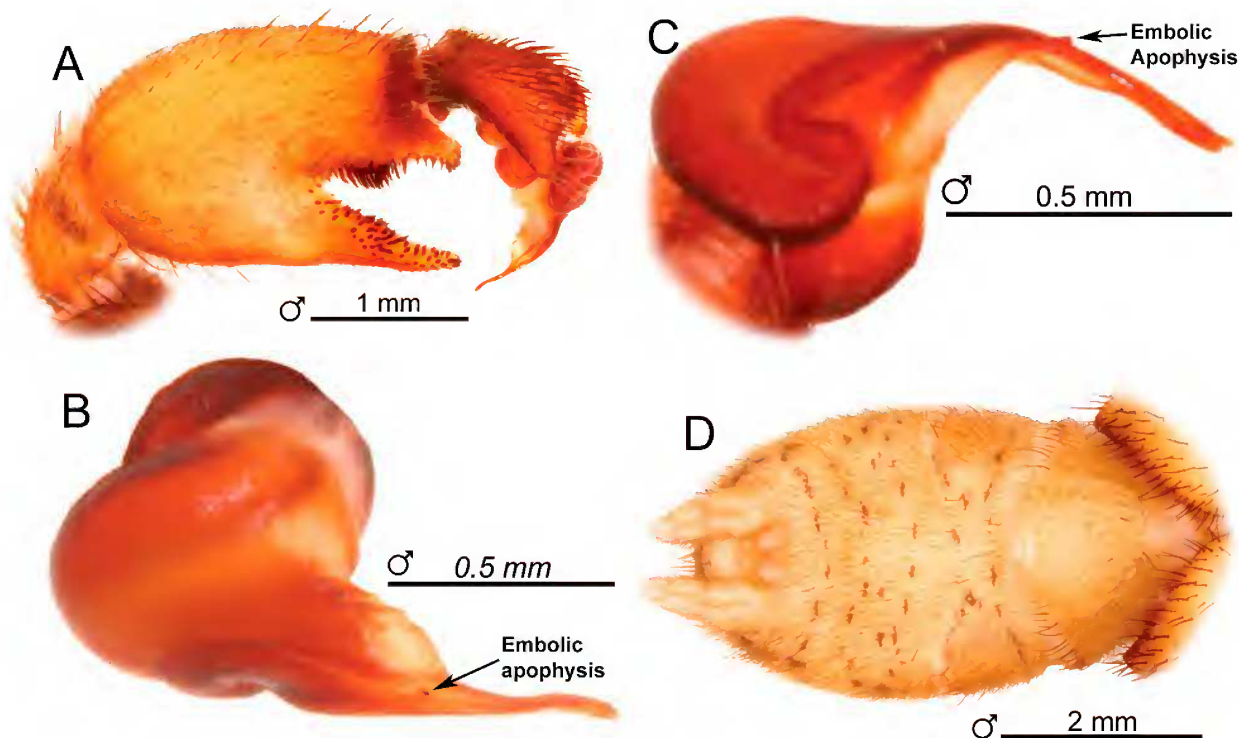


Fig. 6. *Misgolas trangae* n.sp. (A–D) ♂, holotype AM KS49026. (A), right palp retrolateral. (B, C), right bulb: (B), dorsal; (C), prolateral. (D), venter.

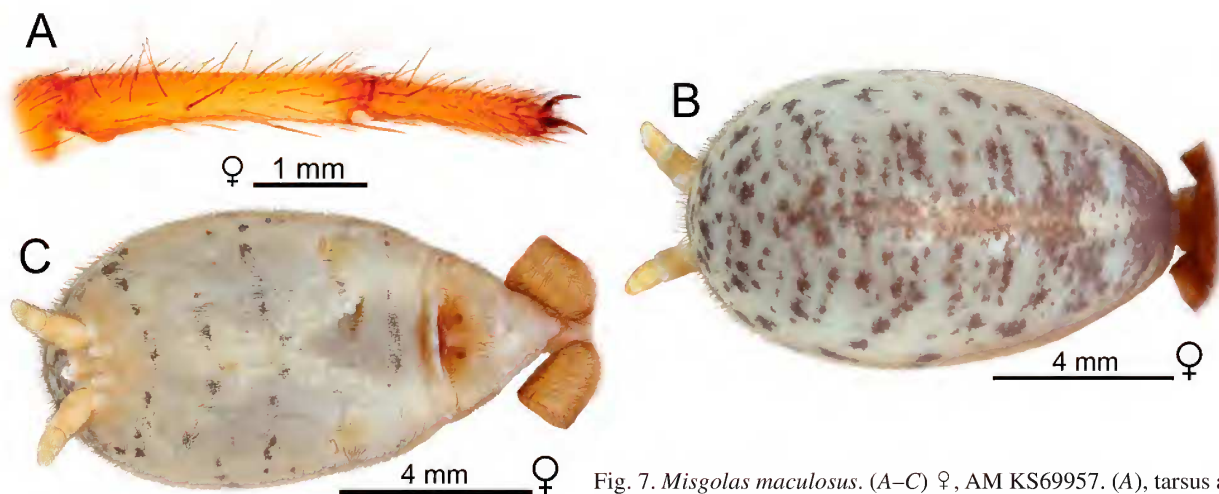


Fig. 7. *Misgolas maculosus*. (A–C) ♀, AM KS69957. (A), tarsus and metatarsus IV retrodorsal; (B), abdomen dorsum; (C), venter.

### *Misgolas maculosus* (Rainbow & Pulleine, 1918)

Figs. 7A–C, 12C

*Dyarcycops maculosus* Rainbow & Pulleine, 1918:108, fig. 2–3.  
*Misgolas maculosus*.—Main, 1985a: 53, 56; 1985b, 24.

**Material examined.** SYNTYPES ♀, AM KS15532 and AM KS15533 (♀ ♀ ♀). The syntypes evidently have deteriorated, venters of all but one spider are devoid of dark brown spots. The syntype AM KS15532 does however conform to the original description.

Females: AM KS10981, Diamond Bay nr Vacluse (33°51'S 151°17'E), 27 Apr. 1983, D. Markus; AM KS12495, Long Bay (33°57'S 151°15'E), 19 Jun. 1983, R. Mascord; AM KS69957, Malabar (33°57'S 151°14'E), 1 Aug. 1965, R. Mascord.

**Diagnosis.** In female: Small brown spiders, carapace length c. 4.2–7.6; rd surface of metatarsi IV usually without spines or with one weak spinule (Fig. 11A). Dorsum (Fig. 11B) with dark brown median band, lateral surfaces maculated; venter (Fig. 11C) with dark brown spots more or less arranged in 2–4 transverse rows. Male unknown.

**Remarks.** Similar to *M. trangae* for which only the male is known. The type specimens AM K41614 (1 ♀) and AM K41615 (3 ♀) were considered lost (Main, 1985b) but have been recovered in the AM collections. The additional material examined here has been determined as conspecific on the basis of proximity of localities from which collected, small size, consistency of venter markings and maculated appearance of dorsum.



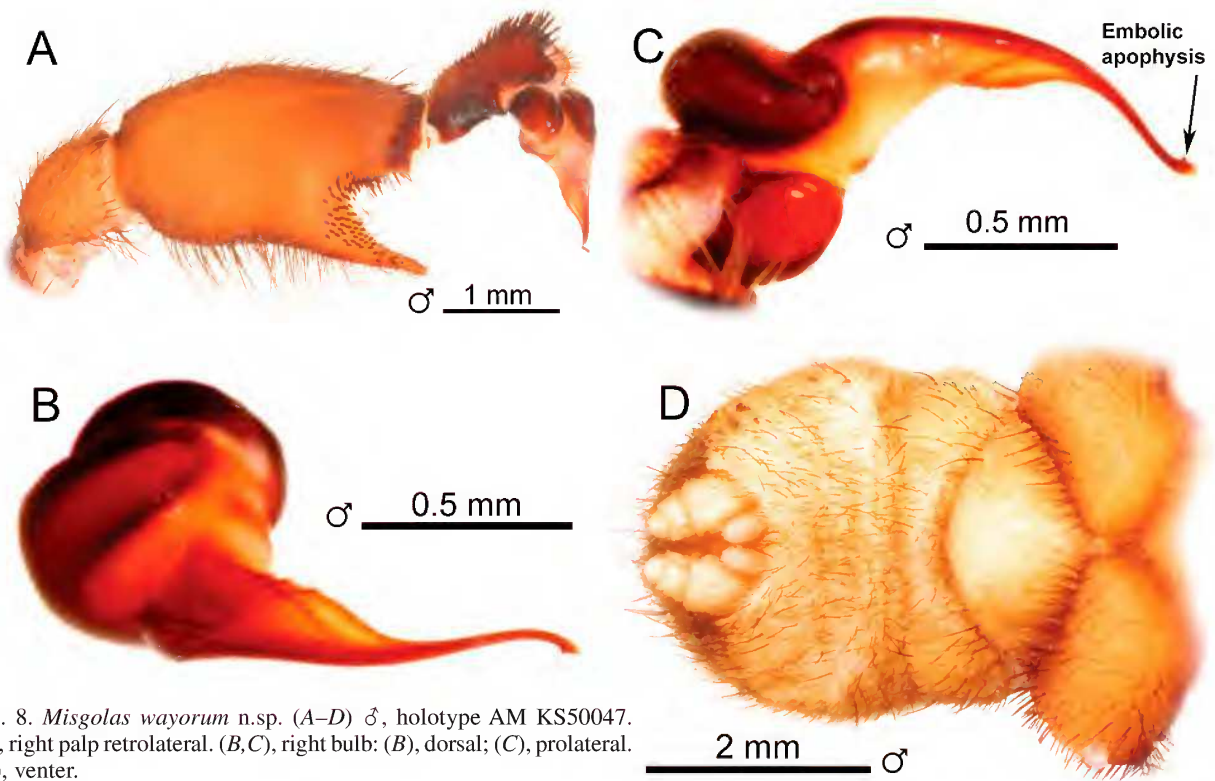


Fig. 8. *Misgolas wayorum* n.sp. (A–D) ♂, holotype AM KS50047. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter.

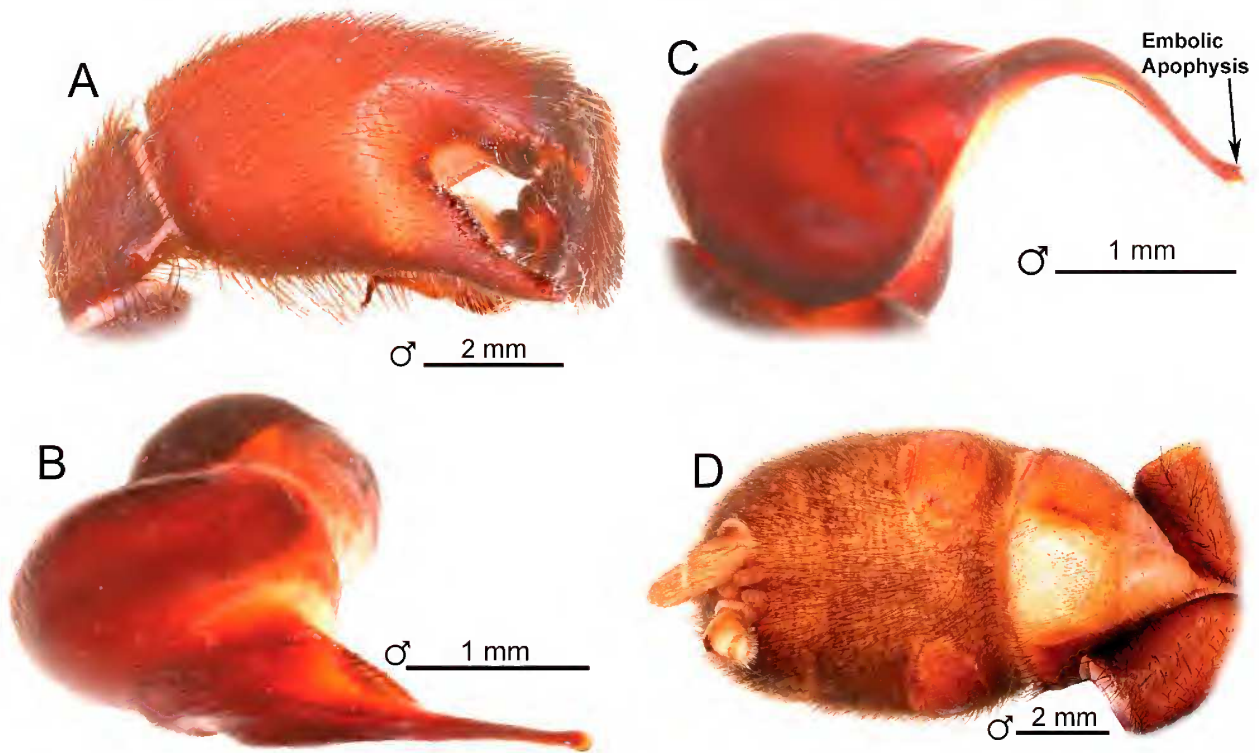


Fig. 9. *Misgolas rodi* n.sp. (A–D) ♂, holotype AM KS50083. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter.



**Distribution and natural history** (Fig. 12C). This spider was first collected in 1918 and is only known from Sydney's Eastern Suburbs East of the Princes Highway between Port Jackson and Botany Bay. Evidently it is confined to sandy soils, a region which excludes *M. villosus*. The burrow is unknown.

*Misgolas wayorum* n.sp.

Figs. 8A–D, 12C

**Material examined.** HOLOTYPE ♂, AM KS50047, Woollooware, NSW (34°03'S 151°09'E). 6 July, 1997, Mrs Heather Sercombe.

**Diagnosis.** In male: Small brown spider, carapace length c. 5.5; rd surface of metatarsi IV without spines; venter entirely pale (Fig. 8D). Embolus of bulb (Fig. 8B,C) narrow and sinuous, with pd distal apophysis; rl flange with 4 folds. Conformation of palp as figured (Fig. 8A). Female unknown.

**Description**

**Male holotype** (Fig. 8A–D). *Size.* Carapace length 5.51, width 4.26. Abdomen length 4.69, width 3.24. *Colour.* Chelicerae dark brown. Carapace brown, ocular area almost black, narrow bilateral dark band along caput arch. Legs dark brown with weak dark lateral smudges. Abdomen pallid; d surface with longitudinal dark band, 5 or 6 transverse bilateral bands; venter not patterned. *Carapace.* Edge fringed with black bristles, many encroach onto posterior half of post foveal surface. Line of 10 anteriorly inclined dark bristles on length of caput arch. Group of 5 anteriorly inclined bristles between PME; 4 large posteriorly inclined and a few small bristles on clypeus. Weakly chitinized area with some setae extends onto pleural membrane below clypeus. Fovea width 0.99, slightly recurved. *Eyes.* Raised on low tubercle; anterior width 0.95, posterior width 0.87, length 0.46, width/length ratio 2.06. Line joining posterior edge of ALE bisects AME. Posterior row straight. *Chelicerae.* Rastellum single row of 5(4) long strong spines. Intercheliceral tumescence clearly visible. Fang groove with 5(6) large promarginal teeth and 7(7) small retromarginal/intermediate row teeth. Fang keels not smooth. *Labium.* Bulbous, length 0.56, width 0.82. Labiosternal suture broad narrowing medially. *Maxillae* c. 20(16) antero-ental small, pointed cuspules most surmounted by fine hair. *Sternum.* Length 2.87, width 2.10. Sigilla all small, round, sub-marginal. *Legs.* Tibia I with apical bifid apophysis; both processes with 2(2) spines.

	Palp	I	II	III	IV
Femur	2.76	5.40	4.67	3.62	(5.28)
Patella	1.28	2.64	2.33	1.84	(2.58)
Tibia	2.73	4.23	3.56	2.27	(4.85)
Metatarsus	—	3.81	3.44	3.07	(4.60)
Tarsus	1.18	2.39	2.27	2.15	(2.70)
Total	7.95	18.47	16.27	12.95	(20.01)

*Palp* (Fig. 8A). Cymbium with many anteriorly inclined peg shaped spines distributed over distal half of d surface. RTA narrow, finger-like, covered with d and rd short fusiform spines which continue along rv edge of excavation becoming progressively longer and attenuate. DTA absent. TEM contiguous with RTA. Tibial excavation pv surface textured extending onto pallid TEM. *Bulb* (Fig. 8B,C). Embolus narrow and sinuous with pd distal apophysis; rl

embolic flange, narrow with c. 5 folds, margin slightly convexly curved. *Scopula.* Weak on tarsi I, tarsi II, and distal ½ of metatarsi I; sparse on tarsi III. *Trichobothria.* Palp: tarsi 6, tibia pd3 rd4. Leg I: tarsi 9, metatarsi 9, tibia pd5 rd4. Leg II: tarsi 9, metatarsi 9, tibia pd4 rd4. Leg III: Tarsi 8, metatarsi 7, tibia pd4 rd3. Leg IV: tarsi (8), metatarsi (10), tibia pd(5) rd(5). *Leg spination.* Leg I: metatarsi v013; tibia v0112. Leg II: tarsi row of 14 small spines along rv edge of scopula; metatarsi v02113; tibia v0112. Leg III: tarsi v27; metatarsi v6, d00120; tibia v0112, rd0011; patella pd2. Leg IV: tarsi v(22), metatarsi v(10). *Abdomen.* Cover of fine hairs; broad d band of long setae reducing in size and extending laterally to venter.

**Etymology.** The species is named in recognition of the Way family of Yowie Bay, and collectors of many spider specimens.

**Distribution and natural history** (Fig. 12C). This spider is known only from the type location. It was found wandering in a house on the corner of Dolan's and Caringbah Roads at Woollooware a suburb of Sydney situated on a peninsular between Botany Bay and Port Hacking. The area has been urbanized for some fifty years yet the type specimen is the only known example of the species. The burrow is unknown.

*Misgolas rodi* n.sp.

Figs. 9A–D, 12C

**Material examined.** HOLOTYPE ♂, AM KS50083, Kurrajong, NSW (33°34'S 150°40'E), 14 Feb. 1997, A. Dollin. (Brittle specimen, preserved in ethyl alcohol [75%]; probably desiccated prior to preservation).

**Diagnosis.** In male: Large blackish-brown spider, carapace length c. 10–11, rd surface metatarsi IV without spines; venter entirely black (Fig. 9D). Palpal bulb (Fig. 9B,C) with rl embolic flange with c. 9–10 fine folds, margin straight; embolus with subdistal d apophysis. Cymbium with many blunt anteriorly inclined d spines on c. ⅓ of distal surface. Conformation of palp as figured (Fig. 9A). Female unknown.

**Description**

**Male holotype** (Fig. 9A–D). *Size.* Carapace length 10.58, width 8.92. Abdomen length 10.68, width 6.88. *Colour.* Dark brown almost black. When dry carapace and proximal segments of limbs bedecked with hairs. Abdomen dorsum with some narrow bilateral marks. Venter entirely black. *Carapace.* Edge fringed with black bristles which lengthen posteriorly and encroach onto posterior half of post foveal surface. Line of c. 13 hairs and bases of missing hairs along entire length of caput arch. Group of 3 bristles between PME; c. 12 posteriorly inclined bristles on clypeus. Weakly chitinized area with few setae extends onto pleural membrane below clypeus. Fovea width 2.18, straight. *Eyes.* Raised on distinct mound; anterior width 1.72, posterior width 1.66, length 1.02, width/length ratio 1.69. Line joining posterior edge of ALE transects anterior ⅓ of AME. Posterior row slightly procurved in front, recurved behind. *Chelicerae.* Rastellum anterior row of 7(7) spines, c. 8(9) behind. Intercheliceral tumescence present. Fang groove difficult to view, marginal teeth not counted. Fang keels absent. *Labium.* Bulbous, length 1.28, width 1.54. Labiosternal suture narrow, undivided. *Maxillae* c. 42(39)

small pointed antero-ental cuspules. *Sternum*. Length 6.26, width 4.54. All sigilla ovate; posterior pair twice diameter from margin, others by one diameter. *Legs*. Tibia I with apical bifid apophysis; distal process with 2(2) blunt spines, proximal process with 4(4) longer pointed spines.

	Palp	I	II	III	IV
Femur	6.45	10.29	9.41	7.64	10.39
Patella	2.82	5.16	4.85	3.81	4.73
Tibia	5.95	7.35	6.70	4.91	9.11
Metatarsus	—	7.45	7.12	6.82	9.31
Tarsus	2.95	3.92	4.05	4.79	4.91
Total	18.17	34.17	32.13	27.97	38.45

*Palp* (Fig. 9A). Cymbium with many blunt closely packed anteriorly inclined spines distributed over distal 1/3 of d surface; many long brown hairs projected forward from outer sides of cymbium lobes. RTA sub-basally swollen, covered with d short spines. Midregion of rv surface of tibial excavation bears brush of c. 14 longer attenuate spines; DTA hooked, terminated with c. 14 short spines. TEM pallid, large and contiguous with RTA; pv surface weakly textured. *Bulb* (Fig. 9B,C). Embolus straight, not twisted, with small thorn-like subdistal d embolic apophysis terminating a narrow d ridge concurrent with embolus; rl embolic flange with c. 9 fine folds, margin straight. *Scopula*. Dense on tarsi I and II, less dense on tarsi III and IV, incomplete and dense on metatarsi I and II, incomplete and sparse on metatarsi III and IV. *Trichobothria*. Palp: tarsi 11, tibia pd7 rd7. Leg I: tarsi 15, metatarsi 20, tibia pd7 rd7. Leg II: tarsi 17, metatarsi 18, tibia pd9 rd8. Leg III: tarsi 18, metatarsi 15, tibia pd8 rd8. Leg IV: tarsi 14, metatarsi 16, tibia pd9 rd8. *Leg spination*. Leg I: tibia v011111. Leg II: metatarsi v010; tibia v01111, pd0110; patella pd2. Leg III: metatarsi v031, d002120; tibia v0112, pl00110, rl00110; patella pd7. Leg IV: metatarsi v8 scattered; tibia v0112. *Abdomen*. Entirely covered with long dark hairs.

**Etymology.** The species is named in recognition of the author's fourth son, Rod Wishart.

**Distribution and natural history** (Fig. 12C). Known only from the type locality. The burrow is unknown.

### *Misgolas beni* n.sp.

Figs. 10A–D, 12C

**Material examined.** HOLOTYPE ♂, AM KS38550, Camden, NSW (34°03'S 150°42'E), June, 1975, collector unknown.

**Diagnosis.** In male: Large brown spider, carapace length c. 8–9; rd surface of metatarsi IV without spines; venter pale with few sparse brown spots most concentrated between posterior book lungs (Fig. 10D). Palpal bulb (Fig. 10B,C) with rl embolic flange with c. 6 folds, margin convexly curved; embolus with small subdistal d apophysis. Cymbium with many squat blunt erect d spines on c. 7/8 of distal surface. Conformation of palp as figured (Fig. 10A). Female unknown.

### Description

**Male** holotype (Fig. 10A–D). *Size*. Carapace length 8.24, width 7.06. Abdomen length 8.23, width 5.49. *Colour*. Cephalothorax, chelicerae and limbs dark brown. When dry carapace

bedecked with golden hirsute sheen. Abdomen dorsum dark brown with pattern of small pale bands in bilateral series of six. Venter pale with very few small scattered dark brown spots most concentrated between posterior book lungs. *Carapace*. Edge fringed with black bristles which encroach onto post foveal surface. Line of c. 14 remaining bases of missing setae along entire length of caput arch. Group of 4 bristles between PME; c. 5 posteriorly inclined bristles on clypeus. Weakly chitinized area with a few setae extends onto pleural membrane below clypeus. Fovea width 1.67, straight. *Eyes*. Raised on a distinct mound; anterior width 1.33, posterior width 1.22, length 0.69, width/length ratio 1.92. Line joining posterior edge of ALE transects anterior 1/3 of AME. Posterior row recurved in front and behind. *Chelicerae*. Rastellum first row of 7(7) spines, second row of 8(6) spines and some smaller spines retreat along pd cheliceral edge. Intercheliceral tumescence present. Fang groove with 10(10) promarginal teeth and 16(16) smaller retromarginal/intermediate row teeth. Fang keels absent. *Labium*. Bulbous, length 0.97, width 1.20. Labiosternal suture narrow, undivided. *Maxillae* c. 51(64) fusiform antero-ental cuspules, c. half surmounted by a fine hair. *Sternum*. Length 4.61, width 3.63. All sigilla ovate; posterior pair twice diameter from margin, others by one diameter. *Legs*. Tibia I with apical bifid apophysis; distal process with 2(1) short pointed spines, proximal process with 3(3) longer pointed spines.

	Palp	I	II	III	IV
Femur	4.73	7.94	7.12	5.77	7.55
Patella	2.24	3.82	3.56	2.89	3.68
Tibia	3.99	5.71	5.10	3.38	6.63
Metatarsus	—	5.71	5.22	4.73	6.87
Tarsus	2.05	3.32	3.13	3.13	3.75
Total	13.01	26.50	24.13	19.90	28.48

*Palp* (Fig. 10A). Cymbium with many squat blunt erect spines distributed over distal 7/8 of dorsal surface; a few brown hairs projected forward from outer sides of cymbium lobes. RTA with slight sub-basal swelling, covered with d and rd short spines; distal half of rv surface of tibial excavation with an extended brush of c. 22 longer attenuate spines; DTA hooked with c. 16 short spines. TEM pallid, large and contiguous with RTA; pv surface weakly textured. *Bulb* (Fig. 10B,C). Embolus straight, not twisted, with thorn-like subdistal d embolic apophysis terminating a narrow d ridge concurrent with the embolus; rl embolic flange with 6 folds, margin convexly curved. *Scopula*. Dense on tarsi I and II, less dense on tarsi III and IV, incomplete and dense on metatarsi I and II, incomplete and sparse on metatarsi III and IV. *Trichobothria*. Palp: tarsi 9, tibia pd5 rd6. Leg I: tarsi 11, metatarsi 11, tibia pd8 rd7. Leg II: tarsi 11, metatarsi 12, tibia pd7 rd7. Leg III: tarsi 8, metatarsi 10, tibia pd6 rd6. Leg IV: tarsi 11, metatarsi 12, tibia pd6 rd7. *Leg spination*. Leg I: metatarsi v011; tibia v0112. Leg II: metatarsi v032; tibia v0112. Leg III: metatarsi v8 scattered, d011220; tibia v0113, pl00110, rl00110, patella pd6. Leg IV: metatarsus v8 scattered; tibia v6 scattered, rd011110. *Abdomen*. Abdomen covered with long dark bristles interspersed with pale hairs. Venter densely covered with pale hairs.

**Etymology.** The species is named in recognition of the author's third son, Ben Wishart.

**Distribution and natural history** (Fig. 12C). Known only from the type localities. The burrow is unknown.



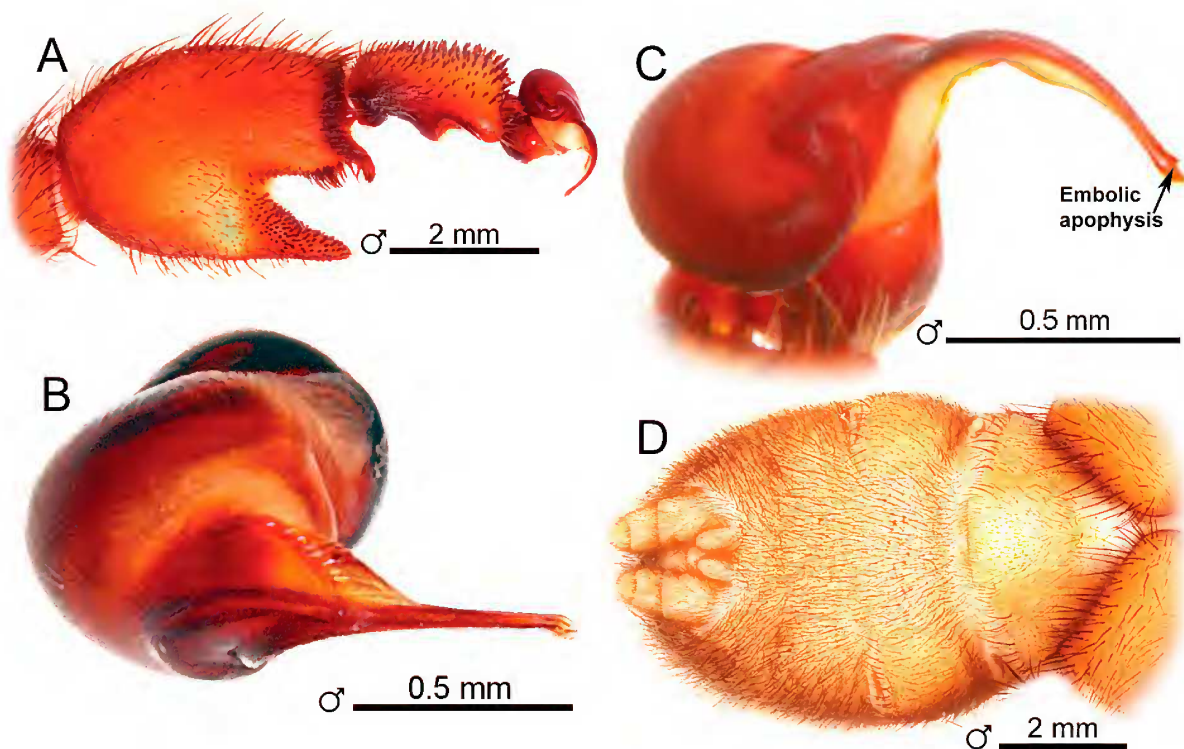


Fig. 10. *Misgolas beni* n.sp. (A–D) ♂, holotype AM KS38550. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D), venter.

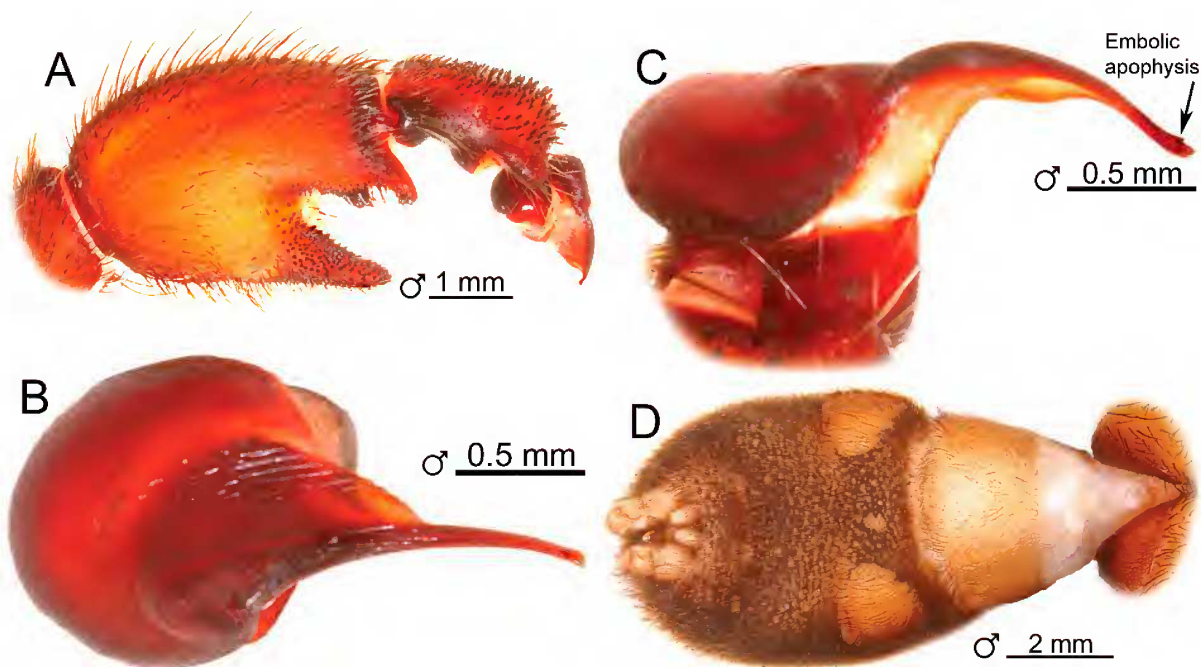


Fig. 11. *Misgolas michaeli* n.sp. (A–C) ♂, paratype AM KS51820. (A), right palp retrolateral. (B,C), right bulb: (B), dorsal; (C), prolateral. (D) ♂, holotype AM KS51819, venter.



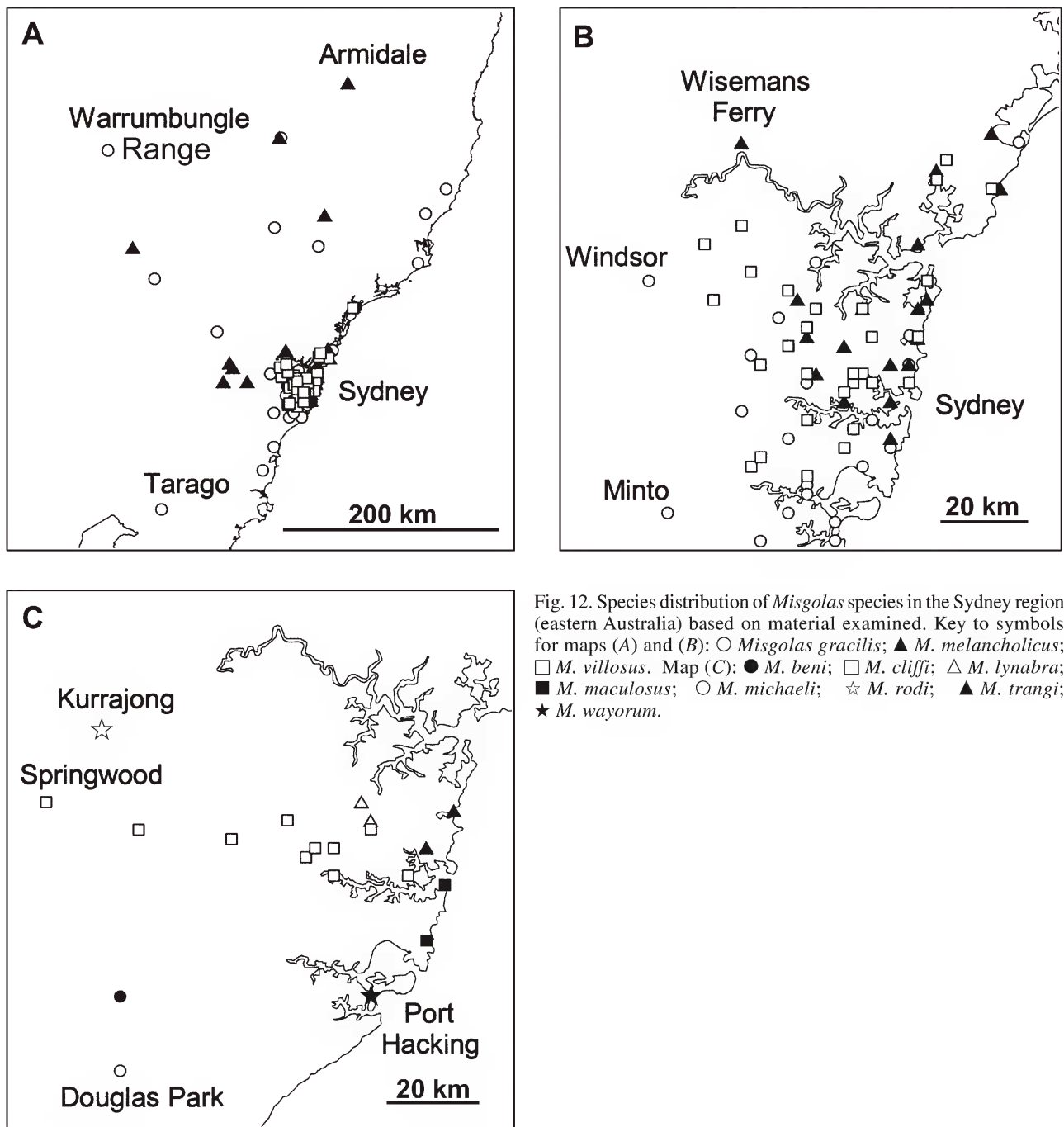


Fig. 12. Species distribution of *Misgolas* species in the Sydney region (eastern Australia) based on material examined. Key to symbols for maps (A) and (B): ○ *Misgolas gracilis*; ▲ *M. melancholicus*; □ *M. villosus*. Map (C): ● *M. beni*; □ *M. cliffi*; △ *M. lynabra*; ■ *M. maculosus*; ○ *M. michaeli*; ☆ *M. rodi*; ▲ *M. trangi*; ★ *M. wayorum*.

*Misgolas michaeli* n.sp.

Figs. 11A–D, 12C

**Material examined.** HOLOTYPE ♂, AM KS51819, Douglas Park, NSW (34°11'S 150°42'E), 28 Nov. 2000, Julie Samphier. PARATYPE ♂, AM KS51820, 28 Oct. 2000, other details as for holotype.

**Description**

**Diagnosis.** In male: Very large dark brown spider, carapace length c. 9–10, rd surface metatarsi IV without spines; venter entirely black (Fig. 11D). Palpal bulb (Fig. 11B,C) with rl embolic flange with c. 5–6 folds, margin straight; embolus with subdistal d apophysis. Cymbium with many short blunt sub-erect slightly anteriorly inclined d spines on c. 7/8 of

distal surface. Conformation of palp as figured (Fig. 11A). Female unknown.

**Male holotype** (Fig. 11A–D). *Size.* Carapace length 9.51, width 7.55. Abdomen length 9.12, width 5.88. *Colour.* Dark brown almost black. When dry carapace seen to have golden interstitial hairs. Abdomen dorsum with narrow bands in bilateral series of c. 6. Venter entirely black. *Carapace.* Edge fringed with black bristles which lengthen posteriorly and encroach onto posterior half of post foveal surface. Line of c. 12 hairs along entire length of caput arch. Group of c. 8 bristles between PME; c. 14 posteriorly inclined bristles on clypeus. Weakly chitinized area with few setae extends onto pleuron membrane below clypeus. Fovea width 1.70, straight. *Eyes.* Placed on low mound; anterior width 1.54,

posterior width 1.38, length 0.82, width/length ratio 1.88. Line joining posterior edge of ALE transects anterior ¼ of AME. Posterior row recurved in front and behind. *Chelicerae*. Rastellum anterior row of 6(6) spines, 2(2) behind. Intercheliceral tumescence present. Fang groove with 10(9) promarginal teeth and 12(13) smaller retro-marginal/intermediate row teeth. Fang keels absent. *Labium*. Bulbous, length 0.97, width 1.47. Labiosternal suture broad, undivided. *Maxillae* c. 55(51) fusiform antero-ental cuspsules, a few surmounted by a fine hair. *Sternum*. Length 5.03, width 3.93. All sigilla small, round; c. 1.5 diameters from margin. *Legs*. Tibia I with apical bifid apophysis; distal process with 2(1) pointed spines and proximal process with 3(3) longer pointed spines.

	Palp	I	II	III	IV
Femur	4.54	8.04	7.25	5.78	7.64
Patella	2.25	4.02	3.62	3.04	3.82
Tibia	4.07	5.39	5.00	3.53	6.86
Metatarsus	—	5.59	5.29	4.80	6.57
Tarsus	2.17	3.23	3.23	2.94	3.72
Total	13.03	26.27	24.39	20.09	28.61

*Palp* (Fig. 11A). Cymbium with many short blunt sub-erect slightly anteriorly inclined spines distributed over distal ¾ of dorsal surface; some brown hairs projected forward from outer sides of cymbial lobes. Tibial rv apophysis swollen sub-basely, covered with d and rl short spines; distal half of rv surface of tibial excavation with an extended brush of c. 18 longer attenuate spines; DTA hooked with c. 14 short spines. TEM pallid large and contiguous with RTA; pv surface weakly textured. *Bulb* (Fig. 11B,C). Embolus straight, not twisted, with thorn-like subdistal d embolic apophysis terminating narrow d ridge concurrent with embolus; rl embolic flange with c. 5–6 folds, margin straight. *Scopula*. Dense on all tarsi. Incomplete on all metatarsi. *Trichobothria*. Palp: tarsi 9, tibia pd 5, rd 6. Leg I: tarsi 12, metatarsi 11, tibia pd 7, rd 7. Leg II: tarsi 11, metatarsi 12, tibia pd 7, rd 7. Leg III: tarsi 12, metatarsi 9, tibia pd 6, rd 6. Leg IV: tarsi 12, metatarsi 13, tibia pd 7, rd 7. *Leg spination*. Leg I: metatarsi v0100; tibia v010102. Leg II: metatarsi rv011100, tibia v00012. Leg III: metatarsi d0121220; v1213; tibia pl00110, rl00110, patella pd5; v0114. Leg IV: tarsi pv01010; metatarsi v011214; tibia v0112. *Abdomen*. Entirely covered in long dark hairs. Dorsum with understorey of fine golden hairs.

**Etymology.** The species is named in recognition of the author's colleague and mentor Dr Michael Gray.

**Distribution and natural history** (Fig. 12C). Known only from the type locality. The burrow is unknown.

**Remarks.** This species may be confused with *A. beni* n.sp. and *A. rodi* n.sp but is separable from them by reference to conformation of dorsal spines on cymbium, erect *M. beni*, anteriorly inclined *M. rodi*.

**ACKNOWLEDGMENTS.** My thanks to the Australian Museum for allowing my association and access to the collection. Especially I acknowledge my mentor, Dr Michael Gray. I thank Ms Helen Smith for mapping, the late Dr Glenn Hunt for his interest, the AM spider room staff for their stimulating company and Dr Robert Raven for unceasing encouragement. I acknowledge my neighbour, Dr Peter Linklater, the perfect host and confidant.

## References

- Cambridge, O.P., 1877. On some new genera and species of Araneidea. *Annals and Magazine Natural History* 19(4): 26–39.
- Coyle, F.A., 1971. Systematics and natural history of the mygalomorph spider genus *Antrodiaetus* and related genera (Araneae: Antrodiaetidae). *Bulletin of the Museum of Comparative Zoology (Harvard)* 141(6): 269–402.
- Forster R.R., & C.L. Wilton, 1968. The spiders of New Zealand. Part II. *Bulletin of the Otago Museum* 2: 1–180.
- Hickman, V.V., 1933. A new ctenizid spider from New South Wales. *Annals and Magazine Natural History* 12(10): 210–216.
- Jordan, S.L., 2001. Burrowing and prey capture behaviour in the genus *Misgolas* (Mygalomorphae: Idiopidae). Unpublished honours thesis, University of New England, Armidale, New South Wales.
- Karsch, F., 1878. Exotisch-araneologisches II. *Gesamte Naturwiss* 51: 771–826.
- Main, B.Y., 1976. *Spiders*. Sydney: Collins.
- Main, B.Y., 1977. Preliminary notes towards a revision of the Mygalomorph spider genus *Dyarcys* (Ctenizidae). *Australian Entomology Magazine* 4(4): 69–72.
- Main, B.Y., 1985a. Further studies on the systematics of ctenizid trapdoor spiders: a review of the Australian genera (Araneae: Mygalomorphae: Ctenizidae). *Australian Journal of Zoology, Supplementary Series* 108: 32–39.
- Main, B.Y., 1985b. Arachnida: Mygalomorphae. In *Zoological Catalogue of Australia*, ed. D.W. Walton, pp. 1–48. Canberra: Australian Government Publishing Service.
- Main, B.Y., & R.M. Mascord, 1974. Description and natural history of a “tube building” species of *Dyarcys* from New South Wales and Queensland (Mygalomorphae: Ctenizidae). *Journal of the Australian Entomological Society (NSW)* 1: 15–21.
- Mascord, R.M., 1970. *Australian Spiders in Colour*. Sydney: Reed.
- Platnick, N.I., 2004. The world spider catalog, version 5.0. American Museum of Natural History.  
<http://research.amnh.org/entomology/spiders/catalog/index.html> [March 2006]
- Rainbow, W.J., 1914. Studies in Australian Araneidae—no. 6. The Terretelariae. *Records of the Australian Museum* 10: 187–270.
- Rainbow, W.J., & R.H. Pulleine, 1918. Australian trapdoor spiders. *Records of the Australian Museum* 12: 81–169.
- Raven, R.J., 1985. The spider infraorder Mygalomorphae: cladistics and systematics. *Bulletin of the American Museum of Natural History* 182: 1–180.  
<http://hdl.handle.net/2246/955> [accessed March, 2006]
- Raven R.J., & G. Wishart, 2005. The trapdoor spider *Arbanitis* L. Koch (Idiopidae: Mygalomorphae) in Australia. *Memoirs of the Queensland Museum* 51(2): 531–557.
- Wishart, G., 1992. New species of the trapdoor spider genus *Misgolas* Karsch (Mygalomorphae: Idiopidae) with a review of the tube building species. *Records of the Australian Museum* 44(3): 263–278.
- Wishart, G., & D.M. Rowell, 1997. Phenotypic variation in sexual and somatic morphology in the trapdoor spider *Misgolas hubbardi* Wishart in relation to its genotypic variation (Mygalomorphae: Idiopidae). *Australian Journal of Entomology* 36: 213–219.

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